ISOCYANATE

SAFETY DATA SHEET

SECTION 1. IDENTIFICATION

1.1 PRODUCT IDENTIFIER

PRODUCT FORM: Mixture

PRODUCT NAME: Isocyanate

SYNONYMS: Resin, Polyurethane resin

1.2 INTENDED USE OF THE PRODUCT

Use in conjunction with isocyanate component. Spray Foam Insulation for commercial and residential use.

1.3 NAME, ADDRESS, AND TELEPHONE OF THE RESPONSIBLE PARTY

COMPANY

NSF Polymers
17598 N IH-35, West, TX 76691
877-NSF-POLY
www.nsfpolymers.com

1.4 EMERGENCY TELEPHONE NUMBER

Emergency Number: CHEMTREC: 1-703-741-5970

SECTION 2. HAZARDS IDENTIFICATION

2.1 CLASSIFICATION OF THE SUBSTANCE OR MIXTURE

GHS-US Classification

Acute Toxicity, Inhalation: 4	H332
Specific Target Organ Toxicity: 3	H335
Respiratory Sensitization: 1	H334
Specific Target Organ Toxicity, 1	H372
Skin Irritation: 2	H315
Skin Sensitization: 1	H317
Eye Irritation: 2B	H320
Harmful if inhaled.	H332
May cause respiratory irritation: 3	H335
May cause allergy or asthma symptoms or breathing difficulties if inhaled: 1	H334
Causes skin irritation: 2	H315
May cause a allergic skin reaction: 1	H317
Causes eye Irritation: 2A	H320
Causes damage to organs: 1	H372

Full text of hazard classes and H-statements: see section 16

2.2 LABEL ELEMENTS

GHS-US Labeling

HAZARD PICTOGRAMS (GHS-US)	
SIGNAL WORD (GHS-US)	Danger
HAZARD STATEMENTS (GHS-US)	H332 - Acute Toxicity, Inhalation H335 - Specific Target Organ Toxicity, single exposure: H334 - Respiratory Sensitization: H372 - Specific Target Organ Toxicity, Repeated Exposure H315 - Skin Irritation H317 - Skin Sensitization H320 - Eye Irritation H332 - Harmful if inhaled. H335 - May cause respiratory irritation. H334 - May cause allergy or asthma symptoms or breathing difficulties if inhaled. H315 - Causes skin irritation. H317 - May cause an allergic skin reaction. H320 - Causes eye irritation. H372 - Causes damage to organs (Respiratory Tract) through prolonged or repeated exposure if inhaled

PRECAUTIONARY STATEMENTS (GHS-US)

P201 - Obtain special instructions before use.

P202 - Do not handle until all safety precautions have been read and understood.

P260 - Do not breathe vapors, mist, or spray.

P264 - Wash hands, forearms, and other exposed areas thoroughly after handling.

P271 - Use only outdoors or in a well-ventilated area.

P272 - Contaminated work clothing must not be allowed out of the workplace.

P280 - Wear protective gloves, protective clothing, and eye protection.

P284 - In case of inadequate ventilation wear respiratory protection.

P302+P352 - If on skin: Wash with plenty of water.

P305+P351+P338 - If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P308+P313 - If exposed or concerned: Get medical advice/attention.

P312 - Call a POISON CENTER/doctor if you feel unwell.

P314 - Get medical advice/attention if you feel unwell.

P321 - Specific treatment (see section 4 on this SDS).

P332+P313 - If skin irritation occurs: Get medical advice/attention.

P337+P313 - If eye irritation persists: Get medical advice/attention.

P362+P364 - Take off contaminated clothing and wash it before reuse.

P405 - Store locked up.

P501 - Dispose of contents/container in accordance with local, regional, national, and international regulations.

2.3 OTHER HAZARDS

Exposure may aggravate pre-existing eye, skin, or respiratory conditions.

2.4 UNKNOWN ACUTE TOXICITY (GHS-US)

No Available Data

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

3.1 SUBSTANCE

Not Applicable

CHEMCIAL NAME	CAS NUMBER	%*
Polymeric diphenylmethane diisocyanate	(CAS no.: 9016-87-9)	60-100
Nonylphenol ethoxylates 9 EO; 4-nonylphenol polyethylene glycol ether branched; polyethylene glycol, mono(p-nonylphenol) ether, branched; 4-nonylphenol, branched, ethoxylated; poly(oxy-1,2-ethanediyl), alpha-(4-nonylphenol)- omega-hydroxy-branched.	(CAS no.: 101-68-8)	30-60

Full text of H-phrases: see section 16

*The exact percentage of composition has been withheld as a trade secret [29 CFR 1910.1200].

SECTION 4. FIRST AID MEASURES

4.1 DESCRIPTION OF FIRST AID MEASURES

First-aid measures General: Never give anything by mouth to an unconscious person.
If you feel unwell, seek medical advice (show the label where possible).
First-aid Measures After Inhalation: When symptoms occur: go into open air and ventilate suspected area. Obtain medical attention if breathing difficulty persists.
First-aid Measures After Skin Contact: Remove contaminated clothing. Drench affected area with water for at least 15 minutes. Obtain medical attention if irritation develops or persists.
First-aid Measures After Eye Contact: Rinse cautiously with water for at least 30 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get immediate medical advice/attention.
First-aid Measures After Ingestion: Rinse mouth. Do NOT induce vomiting. Obtain medical attention.

4.2 MOST IMPORTANT SYMPTOMS AND EFFECTS BOTH ACUTE AND DELAYED

Symptoms/Injuries: Causes skin irritation. Causes serious eye damage.
Symptoms/Injuries After Inhalation: Prolonged exposure may cause irritation. Symptoms/Injuries After Skin Contact: Redness, pain, swelling, itching, burning, dryness, and dermatitis.
Symptoms/Injuries After Eye Contact: Causes permanent damage to the cornea, iris, or conjunctiva.
Symptoms/Injuries After Ingestion: Ingestion may cause adverse effects
Chronic Symptoms: None expected under normal conditions of use.

4.3 INDICATION OF ANY IMMEDIATE MEDICAL ATTENTION AND SPECIAL TREATMENT NEEDED

If exposed or concerned, get medical advice and attention. If medical advice is needed, have product container or label at hand.

SECTION 5. FIRE FIGHTING MEASURES

5.1 EXTINGUISHING MEDIA

Suitable Extinguishing Media: Water spray, dry chemical, foam, carbon dioxide.
Unsuitable Extinguishing Media: Do not use a heavy water stream. Use of heavy stream of water may spread fire.

5.2 SPECIAL HAZARDS ARISING FROM THE SUBSTANCE OR MIXTURE

Fire Hazard: Not considered flammable but may burn at high temperatures.
Explosion Hazard: Product is not explosive.
Reactivity: Hazardous reactions will not occur under normal conditions.

5.3 ADVICE FOR FIREFIGHTERS

Precautionary Measures Fire: Exercise caution when fighting any chemical fire.
Firefighting Instructions: Use water spray or fog for cooling exposed containers.
Protection During Firefighting: Do not enter fire area without proper protective equipment, including respiratory protection.
Hazardous Combustion Products: Carbon oxides (CO, CO2). Phosphorus oxides. Corrosive vapors.
Other Information: Do not allow run-off from fire fighting to enter drains or water courses.

SECTION 6. ACCIDENTAL RELEASE MEASURES

6.1 PERSONAL PRECAUTIONS, PROTECTIVE EQUIPMENT AND EMERGENCY PROCEDURES

General Measures: Do not breathe vapor, mist or spray. Do not get in eyes, on skin, or on clothing.

6.1.1 FOR NON-EMERGENCY PERSONNEL

Protective Equipment: Use appropriate personal protective equipment (PPE).
Emergency Procedures: Evacuate unnecessary personnel.

6.1.2 FOR EMERGENCY PERSONNEL

Protective Equipment: Equip cleanup crew with proper protection.
Emergency Procedures: Upon arrival at the scene, a first responder is expected to recognize the presence of dangerous goods, protect oneself and the public, secure the area, and call for the assistance of trained personnel as soon as conditions permit. Ventilate area.

6.2 ENVIRONMENTAL PRECAUTIONS

Prevent entry to sewers and public waters. Avoid release to the environment.

6.3 METHODS AND MATERIALS FOR CONTAINMENT AND CLEANING UP

For Containment: Contain any spills with dikes or absorbents to prevent migration and entry into sewers or streams.
Methods for Cleaning Up: Clean up spills immediately and dispose of waste safely. Transfer spilled material to a suitable container for disposal. Contact competent authorities after a spill.

6.4 REFERENCE TO OTHER SECTIONS

See Section 8 for exposure controls and personal protection and Section 13 for disposal considerations.

SECTION 7: HANDLING AND STORAGE

7.1 PRECAUTIONS FOR SAFE HANDLING

Precautions for Safe Handling: Do not handle until all safety precautions have been read and understood. Do not get in eyes, on skin, or on clothing. Do not breathe vapors, fumes, mist, or spray. Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work. Obtain special instructions before use.
Hygiene Measures: Handle in accordance with good industrial hygiene and safety procedures.

7.2 CONDITIONS FOR SAFE STORAGE, INCLUDING ANY INCOMPATIBILITIES

Technical Measures: Comply with applicable regulations.
Storage Conditions: Keep container closed when not in use. Store in a dry, cool place. Keep/Store away from direct sunlight, extremely high or low temperatures and incompatible materials. Store locked up/in a secure area.
Incompatible Materials: Strong acids, strong bases, strong oxidizers. reactive metals (Al, K, Zn ...). Isocyanates.

7.3 SPECIFIC END USE(S)

Apart from the uses mentioned in Section 1 no other specific uses are stipulated.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 CONTROL PARAMETERS

For substances listed in section 3 that are not listed here, there are no established exposure limits from the manufacturer, supplier, importer, or the appropriate advisory agency including: ACGIH (TLV), AIHA (WEEL), NIOSH (REL), or OSHA (PEL).

Methylene bisphenyl isocyanate (MDI) (CAS: 101-68-8)

PEL-C	OSHA	0.02 ppm (0.2 mg/m^3)
REL-TWA	NIOSH	0.005 ppm (0.05 mg/m^3)
REL-C	NIOSH	0.020 ppm (0.2 mg/m^3) [10 minutes]
TLV®-TWA	ACGIH	0.005 ppm [1985]
PEL-TWA	CAL/OSHA	0.005 ppm (0.051 mg/m^3)

8.2 EXPOSURE CONTROLS

Appropriate Engineering Controls: Emergency eye wash fountains and safety showers should be available in the immediate vicinity of any potential exposure. Ensure adequate ventilation, especially in confined areas. Ensure all national/local regulations are observed.

Personal Protective Equipment: Gloves. Protective clothing. Protective goggles.

Materials for Protective Clothing: Chemically resistant materials and fabrics.
Hand Protection: Wear protective gloves.
Eye and Face Protection: Chemical safety goggles.
Skin and Body Protection: Wear suitable protective clothing.
Respiratory Protection: If exposure limits are exceeded or irritation is experienced, Approved respiratory protection should be worn. In case of inadequate ventilation, oxygen deficient atmosphere, or where exposure levels are not known wear approved respiratory protection.
Other Information: When using, do not eat, drink or smoke.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

9.1 INFORMATION ON BASIC PHYSICAL AND CHEMICAL PROPERTIES

Physical State	Liquid
Appearance	Brown Liquid
Odor	Slight anime
Boiling Point	245 °C
Flash Point	>150 °C (closed cup)
Auto-ignition Temperature	No Data Available
Viscosity	200 mPa.s at 25 °C

9.2 OTHER INFORMATION

No Additional Information available

SECTION 10. STABILITY INFORMATION

10.1 REACTIVITY:

Hazardous reactions will not occur under normal conditions.

10.2 CHEMICAL STABILITY:

Stable under recommended handling and storage conditions (see section 7).

10.3 POSSIBILITY OF HAZARDOUS REACTIONS:

Exposure to elevated temperatures can cause product to decompose and generate gas. This can cause pressure build-up and/or rupturing of closed containers. Polymerization can be catalyzed by strong bases and water.

10.4 CONDITIONS TO AVOID:

Avoid exposure to elevated temperature and incompatible materials. Avoid exposure to moisture.

10.5 INCOMPATIBLE MATERIALS:

Acids, Alcohols, Amines, Water, Ammonia, Bases, Metal compounds, Strong oxidizers. Avoid contact with metals such as: Aluminum, Zinc, Brass, Tin, Copper, Galvanized metals.

10.6 HAZARDOUS DECOMPOSITION PRODUCTS:

Carbon oxides (CO, CO2). Phosphorus oxides. Nitrogen oxides. Hydrochloric acid fumes may be generated. Hydrogen bromide. Phosphine. aldehydes, ketones. Acrid smoke and irritating fumes.

SECTION 11: TOXICOLOGICAL INFORMATION

11.1 INFORMATION ON TOXICOLOGICAL EFFECTS

Acute Toxicity: Not Classified

Polymeric diphenylmethane diisocyanate (CAS no.: 9016-87-9):

LD50 Oral Rat	1500 mg/kg
LD50 Dermal Rabbit	>5000 mg/kg
LC50 Inhalation Rat	> 5.05 mg/l/4h

Skin Corrosion/Irritation: Causes skin irritation. Signs/symptoms may include localized redness, swelling, and itching.

Serious Eye Damage/Irritation: Causes serious eye irritation. Signs/symptoms may include redness, swelling, pain, tearing, and blurred or hazy vision.

Respiratory or Skin Sensitization: May cause an allergic skin reaction. May cause allergy or asthma symptoms or breathing difficulties if inhaled.

Germ Cell Mutagenicity: Not classified

Carcinogenicity: Lung tumors have been observed in laboratory animals exposed to respirable aerosol droplets of MDI/Polymeric MDI.Tumors occurred concurrently with respiratory irritation and lung injury.

IARC: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by IARC.

NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

Reproductive Toxicity: No Data Available

Specific Target Organ Toxicity (Single Exposure): May cause respiratory irritation.

Specific Target Organ Toxicity (Repeated exposure(oral)): May cause damage to organs through prolonged or repeated exposure. Tissue injury in the upper respiratory tract and lungs has been observed in laboratory animals after repeated excessive exposures to MDI/polymeric MDI aerosols.

SECTION 12: ECOLOGICAL INFORMATION

12.1 TOXICITY
No Data Available on product

12.2 PERSISTENCE AND DEGRADABILITY
Persistence and Degradability: May cause long-term adverse effects in the environment.

12.3 BIOACCUMULATIVE POTENTIAL
No Data Available on product

12.4 MOBILITY IN SOIL
No additional information available

12.5 RESULTS OF PBT AND VPVB ASSESSMENT
PBT/vPvB assesSment not available as chemical safety assessment not required/not conducted

12.6 OTHER ADVERSE EFFECTS
Avoid release to the environment

SECTION 13. DISPOSAL CONSIDERATIONS

13.1 WASTE TREATMENT METHODS
Disposal of the product
Disposal should be in accordance with applicable Federal, State and local laws and regulations. Local regulations may be more stringent than State or Federal requirements.

Disposal of contaminated packaging
Dispose of any unused product

SECTION 14. TRANSPORT INFORMATION

The shipping description(s) stated herein were prepared in accordance with certain assumptions at the time the SDS was authored, and can vary based on a number of variables that may or may not have been known at the time the SDS was issued.

14.1 IN ACCORDANCE WITH DOT

Not regulated for shipping when shipped in quantities <8333 lb (based on maximum concentration of 4,4'-DIPHENYLMETHANE DIISOCYANATE with CERCLA RQ = 5000 lb)
Proper Shipping Name: Other regulated substances, liquid, n.o.s. (4,4'-DIPHENYLMETHANE DIISOCYANATE)
Hazard Class: 9 Identification Number: NA3082
Label codes: 9
Packing Group: III
ERG Number: 171

14.2 IN ACCORDANCE WITH IMDG

Not dangerous goods

14.3 IN ACCORDANCE WITH IATA

Not regulated for transport

SECTION 15. REGULATORY INFORMATION

15.1 SAFETY, HEALTH, ENVIRONMENTAL REGULATIONS SPECIFIC FOR THE PRODUCT IN QUESTION

California Proposition 65 Components
This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.

Massachusetts Right To Know Components
4,4'-DIPHENYLMETHANE DIISOCYANATE (CAS no.: 101-68-8)

New Jersey Right To Know Components
Polymeric diphenylmethane diisocyanate (CAS no.: 9016-87-9)
4,4'-DIPHENYLMETHANE DIISOCYANATE (CAS no.: 101-68-8)

Pennsylvania Right To Know Components
4,4'-DIPHENYLMETHANE DIISOCYANATE (CAS no.: 101-68-8)

CERCLA
4,4'-DIPHENYLMETHANE DIISOCYANATE (CAS no.: 101-68-8)
(RQ = 5000 lb)

SARA 302 Components
No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

SARA 311/312 Hazards
Acute Health Hazard, Chronic Health Hazard

SARA 313 Components
Polymeric diphenylmethane diisocyanate (CAS no.: 9016-87-9)
4,4'-DIPHENYLMETHANE DIISOCYANATE (CAS no.: 101-68-8)

HMIS Rating

Isocyanate	
HEALTH	2
FLAMMABILITY	1
PHYSICAL HAZARD	1
PERSONAL PROTECTION	

NFPA Rating

SECTION 16: OTHER INFORMATION, INCLUDING DATE OF PREPARATION OR LAST REVISION

DATE OF PREPARATION OR LATEST REVISION: 05/09/2018
OTHER INFORMATION: This document has been prepared in accordance with the SDS requirements of the OSHA Hazard Communication Standard 29 CFR 1910.1200

GHS Full Text Phrases

Acute Tox. 3 (Inhalation:vapour)	Acute toxicity (inhalation:vapour) Category 3
Acute Tox. 4 (Dermal)	Acute toxicity (dermal) Category 4
Acute Tox. 4 (Oral)	Acute toxicity (oral) Category 4
Aquatic Acute 3	Hazardous to the aquatic environment - Acute Hazard Category 3
Aquatic Chronic 3	Hazardous to the aquatic environment - Chronic Hazard Category 3
Carc. 2	Carcinogenicity Category 2
Eye Dam. 1	Serious eye damage/eye irritation Category 1
Eye Irrit. 2	Serious eye damage/eye irritation Category 2
Eye Irrit. 2A	Serious eye damage/eye irritation Category 2A
Flam. Liq. 2	Flammable liquids Category 2
Flam. Liq. 3	Flammable liquids Category 3
Repr. 2	Reproductive toxicity Category 2
Skin Corr. 1B	Skin corrosion/irritation Category 1B
Skin Irrit. 2	Skin corrosion/irritation Category 2
STOT RE 2	Specific target organ toxicity (repeated exposure) Category 2
STOT SE 3	Specific target organ toxicity (single exposure) Category 3
H225	Highly flammable liquid and vapour
H226	Flammable liquid and vapour
H302	Harmful if swallowed
H312	Harmful in contact with skin
H314	Causes severe skin burns and eye damage
H315	Causes skin irritation
H318	Causes serious eye damage
H319	Causes serious eye irritation
H331	Toxic if inhaled
H335	May cause respiratory irritation
H351	Suspected of causing cancer
H361	Suspected of damaging fertility or the unborn child
H373	May cause damage to organs through prolonged or repeated exposure
H402	Harmful to aquatic life
H412	Harmful to aquatic life with long lasting effects

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.

SDS US (GHS HazCom)