



Material Safety Data Sheet

Product Name – Espurepol™ AR100N (Polyurethane Polyester Polyol)

1. Substance/Preparation and Company Identification

Company

Shakun Industries

P-09, Street-12, Sector-3, Reliance Model Economic Township, Dadri Toe, Jhajjar, Haryana - 124105

Chemical Family: Not Classified

Chemical Name: Dispersions in Polyether Polyol (Polymer)

Synonyms: Polyol, Poly, B-Side, B-Component

2. Composition/Information on Ingredients

CAS Number Content (W/W) Chemical Name:

Classified

3. Hazard Identification

Emergency Overview

This product is not classified as dangerous according to EC criteria.

4. First-Aid Measures

General advice

First Aid responders should pay attention to self-protection and use the recommended protective clothing (chemical resistant gloves, splash protection). If potential for exposure exists, refer to Section 8 for specific personal protective equipment.

Inhalation

Move person to fresh air; if effects occur, consult a physician.

Skin Contact

Wash skin with plenty of water. Suitable emergency safety shower facility should be immediately available.

Eye Contact

Flush eyes thoroughly with water for several minutes. Remove contact lenses after the initial 1-2 minutes and continue flushing for several additional minutes. If effects occur, consult a physician, preferably an ophthalmologist. Suitable emergency eyewash facility should be available in work area.

Ingestion

If swallowed, seek medical attention. Do not induce vomiting unless directed to do so by medical personnel.

Most important symptoms and effects, both acute and delayed

Aside from the information found under Description of first aid measures (above) and Indication of immediate medical attention and special treatment needed (below), no additional symptoms and effects are anticipated.

Indication of immediate medical attention and special treatment needed

If burn is present, treat as any thermal burn, after decontamination. No specific antidote. Treatment of exposure should be directed at the control of symptoms and the clinical condition of the patient.

Note to Physician

Hazards

Symptoms can appear later.

Antidote

Treatment should be supportive and based on the judgment of the physician.

Treatment

Treatment should be supportive and based on the judgment of the physician in response to the reaction of the patient.

5. Fire-Fighting Measures

Suitable extinguishing media

Water fog or fine spray. Dry chemical fire extinguishers. Carbon dioxide fire extinguishers. Foam. Alcohol resistant foams (ATC type) are preferred. General-purpose synthetic foams (including AFFF) or protein foams may function, but will be less effective.

Extinguishing Media to Avoid

Do not use direct water stream. May spread fire.

Special hazards arising from the substance or mixture

Hazardous Combustion Products

During a fire, smoke may contain the original material in addition to combustion products of varying composition, which may be toxic and/or irritating. Combustion products may include and are not limited to carbon monoxide and carbon dioxide.

Unusual Fire and Explosion Hazards

Container may rupture from gas generation in a fire situation. Violent steam generation or eruption may occur upon application of direct water stream to hot liquids.

Advice for firefighters

Fire Fighting Procedures

Keep people away. Isolate fire and deny unnecessary entry. Use water spray to cool fire exposed containers and fire affected zone until fire is out and danger of re-ignition has passed. Fight fire from protected location or safe distance. Consider the use of unmanned hose holders or monitor nozzles. Immediately withdraw all personnel from the area in case of rising sound from venting safety device or discoloration of the container. Do not use direct water stream. May spread fire. Move container from fire area if this is possible without hazard. Burning liquids may be moved by flushing with water to protect personnel and minimize property

damage. Contain firewater run-off if possible. Firewater run-off, if not contained, may cause environmental damage. Review the "Accidental Release Measures" and the "Ecological Information" sections of this MSDS.

Special Protective Equipment for Firefighters

Wear positive-pressure self-contained breathing apparatus (SCBA) and protective firefighting clothing (includes firefighting helmet, coat, trousers, boots, and gloves). Avoid contact with this material during firefighting operations. If contact is likely, change to full chemical resistant firefighting clothing with self-contained breathing apparatus. If this is not available, wear full chemical resistant clothing with self-contained breathing apparatus and fight fire from a remote location. For protective equipment in post-fire or non-fire clean-up situations, refer to the relevant sections.

6. Accidental Release Measures

Personal precautions, protective equipment, and emergency procedures

Isolate area. Refer to Section 7, Handling, for additional precautionary measures. Keep unnecessary and unprotected personnel from entering the area. Spilled material may cause a slipping hazard. Use appropriate safety equipment. For additional information, refer to Section 8, Exposure Controls and Personal Protection.

Environmental precautions

Prevent from entering soil, ditches, sewers, waterways and/or groundwater. See Section 12, Ecological Information.

Methods and materials for containment and cleaning up

Contain spilled material if possible. Absorb with materials such as dirt, sand, and sawdust. Collect in suitable and properly labelled containers. Wash the spill site with water. See Section 13, Disposal Considerations, for additional information.

7. Handling and Storage

Handling

General Handling

Avoid contact with eyes. Wash thoroughly after handling. Keep container closed. Product shipped/handled hot can cause thermal burns. This material is hygroscopic in nature.

Other Precautions

Spills of these organic materials on hot fibrous insulations may lead to lowering of the auto ignition temperatures possibly resulting in spontaneous combustion.

Storage

Protect from atmospheric moisture. Store in a dry place. Avoid prolonged exposure to heat and air. Store in the following material(s): carbon steel, stainless steel, polypropylene, polyethylene-lined container, teflon, glass-lined container, and aluminium.

Storage Period & Temperature

6 Months 24 - 41 °C

8. Exposure Controls and Personal Protection

Personal Protective Equipment

Eye/Face Protection

Use safety glasses (with side shields). Safety glasses (with side shields) should be consistent with EN 166 or equivalent. When handling hot material: Use chemical goggles. Chemical goggles should be consistent with EN 166 or equivalent. Wear a face-shield, which allows use of chemical goggles, or wear a full-face respirator, to protect face and eyes when there is any likelihood of splashes.

Skin Protection

Wear clean, body-covering clothing. When handling hot material, protect skin from thermal burns. Selection of specific items will depend on the operation.

Hand protection

Use gloves chemically resistant to this material when prolonged or frequently repeated contact could occur. Use chemical resistant gloves classified under Standard EN374: Protective gloves against chemicals and micro-organisms. If hands are cut or scratched, use gloves chemically resistant to this material even for brief exposures. Use gloves with insulation for thermal protection (EN 407), when needed. When prolonged or frequently repeated contact may occur, a glove with a protection class of 3 or higher (breakthrough time greater than 60 minutes according to EN 374) is recommended.

NOTICE: The selection of a specific glove for a particular application and duration of use in a workplace should also take into account all relevant workplace factors such as, but not limited to: Other chemicals which may be handled, physical requirements (cut/puncture protection, dexterity, thermal protection), potential body reactions to glove materials, as well as the instructions/specifications provided by the glove supplier.

Respiratory Protection

Under intended handling conditions, no respiratory protection should be needed.

Ingestion

Use good personal hygiene. Do not consume or store food in the work area. Wash hands before smoking or eating.

Ventilation

Use local exhaust ventilation, or other engineering controls to maintain airborne levels below exposure limit requirements or guidelines. If there are no applicable exposure limit requirements or guidelines, general ventilation should be sufficient for most operations. Local exhaust ventilation may be necessary for some operations.

9. Physical and Chemical Properties

Form	: Liquid
Odor	: Faint Odor, Aromatic
Color	: Brown - Yellow
pH Value	: No data available
Freezing Point	: No data available
Boiling Point	: No data available
Vapour Pressure	: < 0.00001 mmHg (20 °C)
Relative Density	: No data available
Viscosity, Dynamic	: No data available
Miscibility with Water	: Soluble

10. Stability and Reactivity

Conditions to Avoid

Avoid moisture.

Substances to Avoid

Water, alcohols, strong bases, substances/products that react with isocyanates.

Decomposition Products

Hazardous decomposition products: carbon monoxide, hydrogen cyanide, nitrogen oxides, aromatic isocyanates, gases/vapours.

Thermal Decomposition

> 260 °C

Corrosion to Metals

No corrosive effect on metal.

Hazardous Reactions

The product is chemically stable. Reacts with water, with formation of carbon dioxide. Risk of bursting. Reacts with alcohols. Reacts with acids. Reacts with alkalis. Reacts with amines. Risk of exothermic reaction. Risk of violent reaction. Risk of polymerization. Contact with certain rubbers and plastics can cause brittleness of the substance or product with subsequent loss in strength.

11. Toxicological Information

Ingestion

Low toxicity if swallowed. Small amounts swallowed incidentally as a result of normal handling operations are not likely to cause injury; however, swallowing larger amounts may cause injury.

As product: Single dose oral LD50 has not been determined.

Estimated. LD50, rat > 2,000 mg/kg

Aspiration hazard

Based on physical properties, not likely to be an aspiration hazard.

Dermal

Prolonged skin contact is unlikely to result in absorption of harmful amounts.

As product: The dermal LD50 has not been determined.

Estimated. LD50, rabbit > 2,000 mg/kg

Inhalation

At room temperature, exposure to vapor is minimal due to low volatility; single exposure is not likely to be hazardous. For respiratory irritation and narcotic effects: No relevant data found.

As product: The LC50 has not been determined.

Eye damage/eye irritation

May cause slight temporary eye irritation. May cause slight temporary corneal injury.

Skin corrosion/irritation

Prolonged exposure not likely to cause significant skin irritation. May cause more severe response if skin is abraded (scratched or cut). Material may be handled at elevated temperatures; contact with heated material may cause thermal burns.

12. Ecological Information

Environmental Toxicity

Acute and Prolonged Toxicity to Fish

Static

Zebra Fish/LD50 (24 h) > 500 mg/L

Practically non-toxic

Acute Toxicity to Aquatic Invertebrates

Daphnia Magna/EC50 (24 h) > 500 mg/L

Practically non-toxic

13. Disposal Considerations

Waste Disposal of Substance

Incinerate in a licensed facility. Dispose of in a licensed facility. Do not discharge substance or product into sewer system.

Container Disposal

Steel drums must be emptied and can be sent to a licensed drum re-conditioner for reuse, a scrap metal dealer or an approved landfill. Refer to 40 CFR § 261.7 (residues of hazardous waste in empty containers). Check with re-conditioner to determine if decontamination is required. Decontaminate containers prior to disposal. Recommend crushing, puncturing or other means to prevent unauthorized use of used containers.

14. Transport Information

Land Transport

USDOT

Not classified as a dangerous good under transport regulations.

Sea Transport

IMDG

Not classified as a dangerous good under transport regulations.

Air Transport

Not Regulated

15. Regulatory information

US. Toxic Substances Control Act

All components of this product are on the TSCA Inventory or are exempt from TSCA Inventory requirements under 40 CFR 720.30

European Inventory of Existing Commercial Chemical Substances (EINECS)

The components of this product are on the EINECS inventory or are exempt from inventory requirements.

Classification and User Label Information

This product is not classified as dangerous according to EC criteria.

Contains: polyether polyol

16. Other Information

HMIS III rating

Health: 1

Flammability: 1

Physical hazard: 1

HMIS uses a numbering scale ranging from 0 to 4 to indicate the degree of hazard. A value of zero means that the substance possesses essentially no hazard; a rating of four indicates high hazard.

IMPORTANT: While the descriptions, designs, data, and information contained herein are guidance only because many factors may affect processing or application/use. We recommend that you make tests to determine the suitability of a product for your particular purpose prior to use. No warranties of any kind, either expressed or implied, including warranties of merchantability or fitness for a particular purpose, are made regarding products described or designs, data or information set forth, or that the products, designs, data, or information may be used without infringing the intellectual property rights of others. In no case shall the descriptions, information, data, or designs provided by consider a part of our terms and conditions of sale. Further, you expressly understand and agree that the descriptions, designs, data, and information furnished by Shakun Industries. Hereunder are given gratis and Shakun Industries assumes no obligation or liability for the description, designs, data, and information given or results obtained. All such being given and accepted at your own risk.

END OF DATA SHEET