

**Product name:** Polyther Polyol YD-403Revision Date  
20190911Version  
2.0**SECTION 1: Identification of the substance/mixture and of the company/undertaking****1.1 Product identifier**

Product name: Polyther Polyol YD-403

Chemical name of the substance:

ethylenediamine, propoxylated

**1.2 Relevant identified uses of the substance or mixture and uses advised against**

Component(s) for the manufacture of urethane polymers. For industrial use only.

**1.3 Details of the supplier of the safety data sheet****COMPANY IDENTIFICATION**

Hebei Yadong Chemical Group Co.Ltd

11F, Block A, 310 Changjiang Avenue, Yuhua, Shijiazhuang

050035 Hebei province, P. R. China

Customer Information Number: : +86 4006516006

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**SECTION 2: Hazards identification****2.1 Classification of the substance or mixture**

GHS classification in accordance with 29 CFR 1910.1200

Eye irritation - Category 2A

**2.2 Label elements**Signal word: **WARNING!****Hazards**

Causes serious eye irritation.

**Precautionary statements****Prevention**

Wash skin thoroughly after handling.

Wear eye protection/ face protection.

**Response**

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.

**2.3 Other hazards**

No data available

**SECTION 3: Composition/information on ingredients**

Product name: Polyther Polyol YD-403

Revision Date  
20190911Version  
2.0**3.1 Substances:** This product is a substance

Component	REACH Registration Number	CAS No.	Concentration	Classification: REGULATION (EC) No 1272/2008
ethylenediamine, propoxylated		25214-63-5	100%	

**Candidate List of Substances of Very High Concern for Authorisation**

This product does not contain substances of very high concern (Regulation (EC) No 1907/2006 (REACH), Article 57).

**SECTION 4: First aid measures****4.1 Description of 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** Take the person into the fresh air and keep him warm, let him rest; if there is difficulty in breathing,
- Skin contact:** Wash affected areas thoroughly with soap and plenty of water. Consult a doctor in the event of a skin reaction.
- 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 eye wash 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.

**4.2 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), any additional important symptoms and effects are described in Section 11: Toxicology Information.

**4.3 Indication of any immediate medical attention and special treatment needed**

No information available.

**SECTION 5: Firefighting measures****5.1 Extinguishing media****Suitable extinguishing media**

Carbon dioxide (CO<sub>2</sub>), Foam, extinguishing powder, in cases of larger fires, water spray should be

**Unsuitable extinguishing media**

High volume water jet

**5.2 Special hazards arising from the substance or mixture**

Burning releases carbon monoxide, carbon dioxide, oxides of nitrogen and traces of hydrogen cyanide. In the event of fire and/or explosion do not breathe fumes.

**5.3 Advice for fire-fighters**

**Product name:** Polyther Polyol YD-403



Revision Date  
20190911

Version  
2.0

**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 reignition 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 fire water run-off if possible. Fire water run-off, if not contained, may cause environmental damage.

**Special protective equipment for firefighters:** Wear positive-pressure self-contained breathing apparatus (SCBA) and protective fire fighting clothing (includes fire fighting helmet, coat, trousers, boots, and gloves). Avoid contact with this material during fire fighting operations. If contact is likely, change to full chemical resistant fire fighting 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.

## SECTION 6: Accidental release measures

### 6.1 Personal precautions, protective equipment and emergency procedures

Put on protective equipment (see section 8). Ensure adequate ventilation/exhaust extraction. Keep unauthorized persons away.

#### Unsuitable extinguishing media

High volume water jet

### 6.2 Special hazards arising from the substance or mixture

Burning releases carbon monoxide, carbon dioxide, oxides of nitrogen and traces of hydrogen cyanide. In the event of fire and/or explosion do not breathe fumes.

### 6.3 Advice for fire-fighters

Firemen must wear self-contained breathing apparatus. Do not allow contaminated extinguishing water to enter the soil, ground-water or surface waters.

## SECTION 7: Handling and storage

### 7.1 Precautions for safe handling

Handle in accordance with good industrial hygiene and safety practice. Avoid contact with skin and eyes. In all workplaces or parts of the plant where high concentrations of 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 such a way that the WEL is not exceeded. The air should be drawn away from the personnel handling the product. The efficiency of the exhaust equipment should be periodically checked.

In all workplaces or parts of the plant where high concentrations of 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 such a way that the WEL is not exceeded. The air should be drawn away from the personnel handling the product. The efficiency of the exhaust equipment should be periodically checked.

Precautions should generally be taken against electrostatic charges according to the equipment used and the way the product is handled and packaged.

Keep away from foodstuffs, drinks and tobacco. Wash hands before breaks and at the end of workday. Keep working clothes separately. Change contaminated or soaked clothing immediately.

### 7.2 Conditions for safe storage, including any incompatibilities

Protect from atmospheric moisture. Keep container tightly closed and dry. 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. Aluminum. Plasite 3066 lined container. Plasite 3070 lined container. 316 stainless steel.

### 7.3 Specific end use(s)

See the technical data sheet on this product for further information.

## SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

### 8.1 Control parameters

Product name: Polyther Polyol YD-403

Revision Date  
20190911Version  
2.0

No information on Exposure Limit Values necessary according to EC directive 2006/121/EG.

For technical protective measures to limit exposure see also Section 7 "Handling and storage"

## 8.2 Exposure controls

### Engineering controls

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.

### Individual protection measures

#### Respiratory protection

Unless the product is entirely enclosed, do not handle it until you have studied the respiratory precautions issued by the appropriate authority or accident prevention association. If vapors form, respirators must be used. Put on full-mask respirator with filter type ABEK.

#### Hand protection

Protective gloves are recommended.

Conditionally suitable materials for protective gloves; EN 374:

Nitrile rubber - NBR ( $\geq 0.35$  mm)

Breakthrough time not tested; dispose of immediately after contamination.

#### Eye protection

Wear eye/face protection

#### Skin and body protection

Wear suitable protective clothing

### Environmental exposure controls

See SECTION 7: Handling and storage and SECTION 13: Disposal considerations for measures to prevent excessive environmental exposure during use and waste disposal.

## SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

### 9.1 Information on basic physical and chemical properties

Appearance	liquid
Color	Clear
Odor	Odorless to mild
Odor Threshold	No data available
pH	9-12
Melting point/range	Not applicable
Freezing point	No data available
Boiling point (760 mmHg)	Literature Decomposes before boiling
Flash point	>150°C
Evaporation Rate (Butyl Acetate=1)	No data available
Flammability (solid, gas)	Not applicable
Lower explosion limit	Not applicable
Upper explosion limit	Not applicable
Vapor Pressure	Negligible at ambient temperature
Relative Vapor Density (air = 1)	Not establishe
Relative Density (water = 1)	1.03
Water solubility	Miscible
Partition coefficient: n-octanol/water	No data available
Auto-ignition temperature	No data available
Decomposition temperature	No data available
Dynamic Viscosity	2200 mPa.s@50°C
Kinematic Viscosity	Not establishe
Explosive properties	Not explosive
Dust explosion class:	Not applicable
Oxidizing properties	Not classified as oxidizing.

### 9.2 Other information

**Product name:** Polyther Polyol YD-403



Revision Date  
20190911

Version  
2.0

The indicated values do not necessarily correspond to the product specification. Please refer to the product information sheet or the technical information sheet for specification data.

## SECTION 10: Stability and reactivity

### 10.1 Reactivity

This information is not available.

### 10.2 Chemical stability

No decomposition below initial boiling point

### 10.3 Possibility of hazardous reactions

No hazardous reactions when used as directed.

### 10.4 Conditions to avoid

Acute oral toxicity

Low toxicity if swallowed. Small amounts swallowed incidentally as a result of normal

### 10.5 Incompatible materials

Avoid contact with oxidizing materials. Avoid contact with: Strong acids. Strong bases. Avoid unintended contact with isocyanates. The reaction of polyols and isocyanates generates heat.

### 10.6 Hazardous decomposition product

Decomposition products depend upon temperature, air supply and the presence of other materials. Decomposition products can include and are not limited to: Carbon dioxide. Alcohols. Ethers. Hydrocarbons. Ketones. Polymer fragments.

## SECTION 11: Toxicological information

Toxicological studies on the product are not yet available.

### 11.1 Information on toxicological effects

#### Acute toxicity

##### Acute oral toxicity

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.

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

##### Acute dermal toxicity

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

As product: The dermal LD50 has not been determined.

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

##### Acute inhalation toxicity

At room temperature, exposure to vapor is minimal due to low volatility; single exposure is not likely to be hazardous. Vapor from heated material or mist may cause respiratory irritation.

For narcotic effects: No relevant data found.

As product: The LC50 has not been determined.

#### Skin corrosion/irritation

Brief contact is essentially nonirritating to skin.

#### Serious eye damage/eye irritation

May cause slight temporary eye irritation.

May cause slight temporary corneal injury.

#### Sensitization

For the component(s) tested:

Did not cause allergic skin reactions when tested in guinea pigs.

For respiratory sensitization:

No specific, relevant data available for assessment.

#### Specific Target Organ Systemic Toxicity (Single Exposure)

Evaluation of available data suggests that this material is not an STOT-SE toxicant.

#### Specific Target Organ Systemic Toxicity (Repeated Exposure)

**Product name:** Polyther Polyol YD-403Revision Date  
20190911Version  
2.0

Based on available data, repeated exposures are not anticipated to cause significant adverse effects.

**Carcinogenicity**

No specific, relevant data available for assessment.

**Teratogenicity**

No specific, relevant data available for assessment.

**Reproductive toxicity**

No specific, relevant data available for assessment.

**Mutagenicity**

In vitro genetic toxicity studies were negative for component(s) tested.

**Aspiration Hazard**

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

**SECTION 12: Ecological information**

Ecotoxicological studies of the product are not available. Do not allow to escape into waterways, wastewater or soil.

**12.1 Toxicity****Acute Fish toxicity**

Polyether Polyol  
LC50 6,310 mg/l  
Species: Danio rerio (zebra fish)  
Exposure duration: 96 h

**Acute toxicity for daphnia**

Polyether Polyol  
EC50 9,890 mg/l  
Test type: Immobilization  
Species: Daphnia magna (Water flea)  
Species: Danio rerio (zebra fish)  
Exposure duration: 48 h  
Method: ASTM E 729-80

**Chronic toxicity to daphnia**

Polyether Polyol  
NOEC (mortality)  $\geq$  10 mg/l  
Species: Daphnia magna (Water flea)  
Exposure duration: 21 d  
Method: OECD Test Guideline 211

**Acute toxicity for algae**

Polyether Polyol  
ErC50  $>$  100 mg/l  
endpoint: Growth inhibition  
Species: Desmodesmus subspicatus (Green algae)  
Exposure duration: 72 h  
Method: Directive 67/548/EEC, Annex V, C.3.

**Acute bacterial toxicity**

Polyether Polyol  
EC50  $>$  10,000 mg/l  
Test type: Respiration inhibition  
Species: activated sludge  
Exposure duration: 3 h

**Product name:** Polyther Polyol YD-403Revision Date  
20190911Version  
2.0

Method: Directive 67/548/EEC, Annex V, C.11.

**Sediment Toxicity**

Polyether Polyol

Due to the low n-octanol-water partition coefficient, an adsorption on the sediment is not to be expected.

**Ecotoxicology Assessment**

Polyether Polyol

Acute aquatic toxicity: The substance is graded as non-critical to water organisms.

Chronic aquatic toxicity: A chronic aquatic toxicity is not expected.

Toxicity Data on Soil: Adsorbs on soil

Impact on Sewage Treatment: Because of the low bacterial toxicity, there is no risk of an adverse effect on the performance of biological waste water treatment plants.

**12.2 Persistence and degradability****Biodegradability**

Polyether Polyol

Test type: aerobic

Inoculum: activated sludge

Biodegradation: 91 %, 28 d, i.e. readily biodegradable

Method: Directive 67/548/EEC Annex V, C.4.D.

**Stability in water**

Polyether Polyol

The study does not need to be conducted since the substance is readily biodegradable.

**Photodegradation**

Polyether Polyol

Test type: Phototransformation in air sensitizer: OH-radicals

Concentration sensibilisator: 500,000 l/cm<sup>3</sup>

Half-life indirect photolysis: 0.063 - 0.12 d

Method: SRC - AOP (calculation)

After evaporation or exposure to the air, the product will be rapidly degraded by photochemical processes

**12.3 Bioaccumulative potential**

Polyether Polyol. Due to the low n-octanol-water partition coefficient, an accumulation in organisms is not to be expected

**12.4 Mobility in soil**

No data available

**12.5 Results of PBT and vPvB assessment**

This substance does not meet the criteria for classification as PBT or vPvB

**12.6 Other adverse effects**

No data available

**SECTION 13: Disposal considerations**

Dispose in accordance with applicable international, national and local laws, ordinances and statutes.

**13.1 Waste treatment methods**

After containers have been emptied as thoroughly as possible (e.g. by pouring, scraping or draining until "drip-dry"), they can be sent to an appropriate collection point set up within the framework of the existing take-back scheme of the chemical industry. Containers must be recycled in compliance with national legislation and environmental regulations.

None disposal into waste water.

Product name: Polyther Polyol YD-403

Revision Date  
20190911Version  
2.0**SECTION 14: Transport information****Classification for ROAD and Rail transport (ADR/RID):**

14.1 UN number	Not applicable
14.2 UN proper shipping name	Not regulated for transport
14.3 Transport hazard class(es)	Not applicable
14.4 Packing group	Not applicable
14.5 Environmental hazards	Not considered environmentally hazardous based on available data.
14.6 Special precautions for user	No data available

**Classification for SEA transport (IMO-IMDG):**

14.1 UN number	Not applicable
14.2 UN proper shipping name	Not regulated for transport
14.3 Transport hazard class(es)	Not applicable
14.4 Packing group	Not applicable
14.5 Environmental hazards	Not considered as marine pollutant based on available data
14.6 Special precautions for user	No data available
14.7 Transport in bulk according to Annex I or II of MARPOL 73/78 and the IBC or IGC Code	Consult IMO regulations before transporting ocean bulk

**Classification for AIR transport (IATA/ICAO):**

14.1 UN number	Not applicable
14.2 UN proper shipping name	Not regulated for transport
14.3 Transport hazard class(es)	Not applicable
14.4 Packing group	Not applicable
14.5 Environmental hazards	Not applicable
14.6 Special precautions for user	No data available

**Additional information**

- Not dangerous cargo.
- Keep dry.
- Keep separated from foodstuffs.

This information is not intended to convey all specific regulatory or operational requirements/information relating to this product. Transportation classifications may vary by container volume and may be influenced by regional or country variations in regulations. 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/legislation specific for the substance or mixture**

- Directive 2012/18/EU on the control of major-accident hazards involving dangerous substances
- Not applicable



**Product name:** Polyther Polyol YD-403



Revision Date  
20190911

Version  
2.0

## 15.2 Chemical Safety Assessment

Not applicable

## SECTION 16: Other information

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.