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**NATIONAL INDUSTRIAL CHEMICALS NOTIFICATION AND ASSESSMENT SCHEME  
(NICNAS)**

**FULL PUBLIC REPORT**

**Polymer in Desmodur XP 2575**

This Assessment has been compiled in accordance with the provisions of the *Industrial Chemicals (Notification and Assessment) Act 1989* (Cwlth) (the Act) and Regulations. This legislation is an Act of the Commonwealth of Australia. The National Industrial Chemicals Notification and Assessment Scheme (NICNAS) is administered by the Department of Health and Ageing, and conducts the risk assessment for public health and occupational health and safety. The assessment of environmental risk is conducted by the Department of the Environment, Water, Heritage and the Arts.

For the purposes of subsection 78(1) of the Act, this Full Public Report may be inspected at our NICNAS office by appointment only at 334-336 Illawarra Road, Marrickville NSW 2204.

This Full Public Report is also available for viewing and downloading from the NICNAS website or available on request, free of charge, by contacting NICNAS. For requests and enquiries please contact the NICNAS Administration Coordinator at:

Street Address:	334 - 336 Illawarra Road MARRICKVILLE NSW 2204, AUSTRALIA.
Postal Address:	GPO Box 58, SYDNEY NSW 2001, AUSTRALIA.
TEL:	+ 61 2 8577 8800
FAX	+ 61 2 8577 8888
Website:	<a href="http://www.nicnas.gov.au">www.nicnas.gov.au</a>

**Director  
NICNAS**

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## FULL PUBLIC REPORT

### Polymer in Desmodur XP 2575

#### 1. APPLICANT AND NOTIFICATION DETAILS

##### APPLICANT(S)

Bayer Australia Limited (ABN 22 000 138 714)  
391 – 393 Tooronga Rd  
HAWTHORN EAST VIC 3123

National Starch & Chemical Pty Ltd (ABN 37 000 351 806)  
7 Stanton Rd  
SEVEN HILLS NSW 2147

##### NOTIFICATION CATEGORY

Limited: Synthetic polymer with  $M_n \geq 10000$  Da.

##### EXEMPT INFORMATION (SECTION 75 OF THE ACT)

Data items and details claimed exempt from publication:

Chemical Name, Other Names, Molecular and Structural Formula, CAS Number, Polymer Constituents, Molecular Weight, Composition Details, Details of Use, Import Volume.

##### VARIATION OF DATA REQUIREMENTS (SECTION 24 OF THE ACT)

Variation to the schedule of data requirements is claimed as follows:

Boiling point, Water solubility, Hydrolysis, Partition Coefficient, Adsorption/Desorption, Explosive Properties

#### 2. IDENTITY OF CHEMICAL

##### MARKETING NAME(S)

Desmodur XP 2575, PURBOND

##### NUMBER AVERAGE MOLECULAR WEIGHT

>10000 Da\*

\*  $M_n$  determined excluding species <4000 Da due to the presence of excess monomers.

##### ANALYTICAL DATA

Reference GPC data were provided.

#### 3. COMPOSITION

DEGREE OF PURITY <80% (concentration in the imported product)

##### HAZARDOUS IMPURITIES/RESIDUAL MONOMERS

<i>Chemical Name</i>	Benzene, 1,1'-methylenebis[isocyanato-
<i>CAS No.</i>	26447-40-5 <i>Weight %</i> >5%
<i>Hazardous Properties</i>	Conc≥25%: Xn; R20; R36/37/38; R42/43
	≥5%Conc<25%: Xn; R36/37/38; R42/43
	≥1%Conc<5%: Xn; R42/43
	≥0.1%Conc<1%: Xn; R42

<i>Chemical Name</i>	Isocyanic acid, polymethylenepolyphenylene ester
<i>CAS No.</i>	9016-87-9 <i>Weight %</i> >5%
<i>Hazardous Properties</i>	Conc≥25%: Xn; R20; R36/37/38; R42
	≥5%Conc<25%: Xn; R36/37/38; R42
	≥1%Conc<5%: Xn; R42

#### 4. PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE AT 20°C AND 101.3 kPa: Brown liquid

Property	Value	Data Source/Justification
Freezing Point	-21°C	MSDS
Boiling Point	Not determined	Decomposes at high temperatures.
Density	1155 kg/m <sup>3</sup> at 20°C	MSDS
Vapour Pressure	1.1 kPa at 20°C	MSDS
Viscosity	3800 mPa.s at 23°C	MSDS
Water Solubility	Not determined	Cannot be determined as the notified polymer is reactive with water. Based on structural considerations low water solubility is expected.
Hydrolysis as a Function of pH	Not determined	Cannot be determined as the notified polymer is reactive with water. Contains hydrolysable functionalities but this not expected in environmental pH range of 4-9.
Partition Coefficient (n-octanol/water)	Not determined	Cannot be determined as the notified polymer is reactive with water. Partitioning to the octanol fraction is expected due to low solubility
Adsorption/Desorption	Not determined	The notified polymer will react with moisture in the soil and cure into a solid, associated with soils/sediments.
Dissociation Constant	Not determined	The notified polymer contains no dissociable groups.
Flash Point	213°C at 101.3kPa	MSDS
Flammability	Not determined	Based on its flash point, the notified polymer would be expected to have limited flammability.
Autoignition Temperature	>500°C	MSDS
Explosive Properties	Not explosive	Does not contain explosive functional groups.

These properties were determined for the notified polymer (<80%) in the imported product Desmodur XP 2575.

#### DISCUSSION OF PROPERTIES

The notified polymer will be introduced as a high-viscosity liquid. The vapour pressure is expected to be based on residual monomer content. For full details of tests on physical and chemical properties, please refer to Appendix A.

#### Reactivity

Exothermic reaction with amines and alcohols may occur. Reaction with water evolves carbon dioxide gas which increases pressure and may lead to rupture of closed containers.

#### 5. INTRODUCTION AND USE INFORMATION

##### MODE OF INTRODUCTION OF NOTIFIED CHEMICAL (100%) OVER NEXT 5 YEARS

The notified polymer will not be manufactured in Australia. The notified polymer (<80%) will be imported by sea in 205 L drums or 1000 L Intermediate Bulk Containers (IBCs).

##### MAXIMUM INTRODUCTION VOLUME OF NOTIFIED CHEMICAL (100%) OVER NEXT 5 YEARS

Year	1	2	3	4	5
Tonnes	200 – 300	200 – 300	300 – 500	300 – 500	300 – 500

#### PORT OF ENTRY

Melbourne and Sydney

IDENTITY OF RECIPIENTS  
Bayer Australia Limited  
HAWTHORN EAST VIC 3123

National Starch & Chemical Pty Ltd  
SEVEN HILLS NSW 2147

#### TRANSPORTATION AND PACKAGING

The notified polymer (<80%) will be imported by sea in 205 L metal drums or 1000 L IBCs. It will be transported from the dockside by road to Bayer Australia Limited/National Starch & Chemical Pty Ltd for warehousing and distribution to adhesive formulators. Alternatively, adhesive products containing the notified polymer (<40%) will be imported by sea in 205 L metal drums or 1000 L IBCs and transported by road to Bayer Australia Limited/National Starch & Chemical Pty Ltd for warehousing and distribution to furniture and structural timber manufacturers.

#### USE

The notified polymer will be used in the formulation of one component moisture-curing liquid polyurethane adhesive systems for engineered wood, such as I-beams, in the furniture and structural timber industries. It is anticipated that the notified polymer will be used in equal quantities in each industry in the first 5 years.

#### OPERATION DESCRIPTION

The notified polymer will be imported in 205 L drums or 1000 L IBCs, transported to the Bayer Australia Limited/National Starch & Chemical Pty Ltd warehouse by road and then distributed to adhesive formulators. Once at the reformulation site, the notified polymer will be transferred via automated pumps through hoses to a 1000 L stainless steel mixing vessel, where other components will be added and mixed to produce the adhesive product.

Adhesive products containing the notified polymer will be taken to various customer sites by road. There, they will be transferred from product containers (via automated pumps and through hoses) to the holding tanks of automated extrusion application machines fitted with multi-nozzle fingerjoint heads.

The automated system for fingerjointing, edge and face gluing is a pressurised, non-circulating adhesive application which incorporates a metered adhesive extrusion head and an air operated adhesive valve. The systems are completely enclosed to reduce adhesive waste and prevent contamination of adhesive integrity by wood dust, chips and shavings.

When the timber joints will be passed through the system, a sensor will detect the leading and trailing edges of the board. When the leading edge of the board is detected, the adhesive valve will open, allowing the adhesive to flow until the trailing edge is sensed. The high penetration and even spread of adhesives gives greater strength to the joint and reduces adhesive consumption. The fingerjoint systems are capable of applying adhesive at up to 150 individual joints per minute.

Alternatively, adhesive products containing the notified polymer will be imported in 205 L drums or 1000 L IBCs, transported to Bayer Australia Limited/National Starch and Chemical Pty Ltd by road for storage before distribution to end-use customers.

## 6. HUMAN HEALTH IMPLICATIONS

### 6.1 Exposure assessment

#### 6.1.1 Occupational exposure

##### NUMBER AND CATEGORY OF WORKERS

<i>Category of Worker</i>	<i>Number</i>	<i>Exposure Duration (hours/day)</i>	<i>Exposure Frequency (days/year)</i>
Transport and Warehousing	20	2	104
Reformulation	4	1	104

Application	20	4	200
Maintenance	20	1	200

## EXPOSURE DETAILS

### Transport & Warehousing

Potential for dermal and ocular exposure to workers during transport and warehousing will be limited to the event of an accident involving breach of imported containers. Engineering controls will include fully bunded facilities and appropriate training for carriers. Personal protective equipment (PPE) will include protective overalls and, in the case of spills, impervious gloves, safety goggles and a suitable respirator if necessary.

### Reformulation

Workers may experience accidental dermal and ocular exposure to the notified polymer (<80%) from spills, drips and splashes when opening containers and connecting hoses from the import container to the blending vessel; when flushing hoses, fittings or filter bags; or when taking samples for quality control analysis. However, the transfer of the notified polymer from import containers to the blending vessel and the transfer of the notified polymer from the blending vessel to product containers is expected to occur via sealed pipes using automated controls. Reformulation workers are expected to wear impervious gloves and safety goggles to minimise dermal and ocular exposure and a suitable respirator if necessary, to minimise inhalation exposure.

The viscosity and vapour pressure of the imported product containing the notified polymer indicate that aerosols are unlikely to be generated. However, if the notified polymer is diluted in solvents of lower viscosity the potential for aerosol generation and therefore inhalation exposure during blending processes cannot be ruled out. Inhalation exposure is expected to be limited by general and local exhaust ventilation.

Samples of product containing the notified polymer will be taken by reformulation workers and provided to quality control staff. Sample analysis is anticipated to occur in a fume cupboard, therefore exposure is expected to be limited to accidental spills. Appropriate PPE, including laboratory coats, safety glasses or face shields and protective gloves are expected to be worn while undertaking sample analysis, reducing the potential for exposure.

### Maintenance

Workers may be exposed to small amounts of adhesives containing the notified polymer (<40%) during cleaning of equipment and removal of product containers. Exposure to maintenance workers is most likely to occur via the dermal route, although there is also potential for inhalation exposure and ocular exposure. These workers are expected to be trained to take adequate precautions (including the appropriate use of PPE) to avoid exposure to the products containing the notified polymer.

### Use in structural timber and furniture applications

Workers may experience accidental dermal and ocular exposure to products containing the notified polymer (<40%) from spills, drips and splashes when connecting hoses from the adhesive product container to the automated extrusion application machine. Exposure is not expected during use of the adhesive application machine as these processes will take place in a fully-enclosed, automated system. Workers are also expected to wear impervious gloves and safety goggles and a suitable respirator if necessary, to minimise inhalation exposure.

Maintenance workers may be exposed to products containing the notified polymer (<40%) via the dermal or ocular route during removal of product containers and cleaning of equipment. Local exhaust ventilation is expected to be in place to minimise inhalation exposure. Impervious gloves and safety goggles are expected to be worn to minimise dermal and ocular exposure and a suitable respirator if necessary, to minimise inhalation exposure.

Workers may also encounter exposure to adhesive products containing the notified polymer after it has been applied to timber substrates. However, since the adhesive will have dried, the notified polymer will be cured and bound in an inert matrix from which it will be unavailable for exposure.

## **6.1.2. Public exposure**

The notified polymer is intended only for use in industry and so public exposure is not expected. Members of the public may make dermal contact with wood substrates articles using adhesives that contain the notified polymer. However, the notified polymer will be bound within a cured, inert matrix from which exposure will be negligible.

## 6.2. Human health effects assessment

No toxicological data were submitted for the notified polymer. In the absence of toxicological data on the notified polymer, the known hazards of isocyanates (HSIS, 2008) have been considered. In addition, toxicological information for an unidentified product (claimed by the notifier to be comparable to the notified polymer) is presented below.

Isocyanates are known to be hazardous to human health. The main hazards posed by isocyanates include respiratory sensitisation in the form of asthma, as well as decreased respiratory function with the possibility of interstitial fibrosis and pulmonary oedema (Tillman, 2007). The UK Employment Medical Advisory Service believes polymeric isocyanate aerosols are capable of causing respiratory sensitisation similar to monomer vapours (HSIS, 2008). Isocyanates may also cause respiratory sensitisation by skin contact (US EPA, 1997). Other adverse health effects of isocyanates may include skin and eye irritation and skin sensitisation from repeated or prolonged exposure (Kirk-Othmer, 1995).

### Toxicological information on the substance identified by the notifier as a comparable product

The following information on an unidentified substance claimed by the notifier to be a comparable product was obtained from the MSDS for Desmodur XP 2575. Given that the identity of the comparable product is not known, the relevance of the information to the toxicity of the notified polymer cannot be determined.

The comparable product was found to be of low acute oral toxicity ( $LD_{50} > 5000$  mg/kg bw). No further details of the test were provided.

Slight reddening of the skin was observed in rabbits exposed to the comparable product for 8 hours. The comparable product also caused moderate reddening and slight swelling of the eyes in rabbits. No further details of the tests were provided.

### **Classification**

The structure of the notified polymer indicates an isocyanate FGEW of <5000 Da and due to potential variations, an unknown percentage of the notified polymer could have an isocyanate FGEW <1000 Da.

Based on the presence of unreacted isocyanate groups, the notified polymer is classified as hazardous under the *Approved Criteria for Classifying Hazardous Substances* (NOHSC, 2004).

R42 May cause sensitisation by inhalation.

As a precautionary approach, (based on the unreacted isocyanate groups, unknown low molecular weight species, and lack of test data), the notified polymer should also be considered for classification as:

R36 Irritating to eyes

R38 Irritating to skin

R43 May cause sensitisation by skin contact

## 6.3. Human health risk characterisation

### 6.3.1. Occupational health and safety

Occupational exposure to the notified polymer (<80%) may occur via inhalation of aerosols generated during reformulation processes such as disconnection and connection of hoses or flushing of hoses, fittings and filter bags. Inhalation exposure to aerosols may also occur during application of adhesive product containing the notified polymer (<40%) and cleaning of equipment. Inhalation of aerosols containing the notified polymer may cause respiratory sensitisation in some workers. The short term exposure limit (STEL) of 7 mg/m<sup>3</sup> and long term time-weighted-average (TWA) exposure limit of 0.02 mg/m<sup>3</sup> is set for the airborne concentration of all isocyanates in the workplace [NOHSC: 1003(1995)]. Therefore, as a minimum, employers should ensure adequate local exhaust ventilation is in place and provide organic vapour respirators to minimise inhalation exposure to aerosols of the notified polymer and excess isocyanate monomers.

The notified polymer may cause skin sensitisation as well as skin and eye irritation to workers, based on the known effects of isocyanates. The notified polymer is imported in a mixture with other isocyanates. The mixture is classified as hazardous for the potential to cause sensitisation by inhalation and skin contact as well as the potential for irritation to the eyes, respiratory system and skin. As such, good hygiene practices should

be maintained and exposure to the skin and eyes minimised by the use of impervious gloves, safety glasses and protective clothing. Employers should also ensure workers who are likely to handle the notified polymer are made aware of all the potential hazards via inhalation, dermal and ocular exposure.

Given the risk of causing skin and respiratory sensitisation, and skin and eye irritation, the risk to workers is likely to only be acceptable when used under highly controlled conditions, and with the appropriate PPE.

### **6.3.2. Public health**

Members of the public will only be exposed to finished timber products in which the notified polymer will be bound within a cured polymeric matrix. All 'free' isocyanate groups are anticipated to have reacted before public exposure would occur. Therefore, the risk to public health is considered to be low, due to the expected negligible exposure once bound to finished timber substrates.

## **7. ENVIRONMENTAL IMPLICATIONS**

### **7.1. Environmental Exposure & Fate Assessment**

#### **7.1.1 Environmental Exposure**

##### **RELEASE OF CHEMICAL**

##### **Importation and reformulation**

It is expected that  $\leq 2.5$  % of the total volume imported per year will be released to the environment from the disposal of spilt notified polymer, from equipment cleaning, and from residue remaining in import containers. Any residual material in import containers will cure and solidify on contact with moisture. Thus any release will be in the form of a cured solid matrix. The cured solid material will be disposed of to landfill along with the container.

##### **Application in the furniture and construction industries**

The adhesive product containing the notified polymer is principally applied by an enclosed automated system for finger jointing, edge and face gluing. This application equipment will be cleaned using a solvent, with the washings collected via a hose into collecting receptacles and disposed of to a liquid waste facility or incinerated. Less than 1% of notified polymer is expected to be lost in this process (<5000 kg notified polymer per annum).

#### **7.1.2 Environmental fate**

Applied notified polymer will be cured, and will become unavailable in the cured matrix. The majority of the notified polymer will be disposed of to landfill, as the lifespans of products in which it is used come to an end. Notified polymer that is disposed of to landfill is expected to associate with soil and sediment, and due to its insolubility in water and its high molecular weight the notified polymer is not expected to be mobile. Over time, the notified polymer should degrade by biotic/abiotic processes to form oxides of carbon, nitrogen and water.

#### **7.1.3. Environmental risk assessment**

It is expected that the majority of notified polymer will be used in the wood furniture and engineered timber industries, and will eventually be disposed of to landfill, where it is expected to be immobile and undergo slow degradation.

Release to the aquatic environment is not anticipated except in the unlikely event of a major spill during transportation. If it were released into the aquatic environment, the notified polymer is expected to partition to particulate matter and accumulate in sediments. Being a non-ionic polymer of high molecular weight, adverse ecotoxicological effects are unlikely.

Based on the reported exposure levels and use pattern, the notified polymer is not considered to pose a risk to the environment when it is stored, transported and used in the proposed manner.

## **8. CONCLUSIONS AND REGULATORY OBLIGATIONS**

### **Hazard classification**



Based on the available information the notified polymer is classified as hazardous under the *Approved Criteria for Classifying Hazardous Substances* [NOHSC:1008(2004)]. The classification and labelling details are:

Xn; R42 May cause sensitisation by inhalation.

Based on the lack of available information the notified polymer should also be considered as if it is classified as hazardous under the *Approved Criteria for Classifying Hazardous Substances* [NOHSC:1008(2004)]:

Xi; R43 May cause sensitisation by skin contact.

Xi R36/38 Irritating to eyes and skin.

As a comparison only, the classification of the notified polymer using the Globally Harmonised System for the Classification and Labelling of Chemicals (GHS) (United Nations 2003) is presented below. This system is not mandated in Australia and carries no legal status but is presented for information purposes.

The notified polymer could not be classified.

#### **Human health risk assessment**

Under the conditions of the occupational settings described, the notified polymer may pose an unacceptable risk to workers. However, given the use of appropriate control measures, the risk to workers is considered to be acceptable.

When used in the proposed manner, the notified polymer is not considered to pose an unacceptable risk to public health.

#### **Environmental risk assessment**

The notified polymer is not considered to pose a risk to the environment when it is stored, transported and used in the proposed manner.

### **Recommendations**

#### REGULATORY CONTROLS

##### Hazard Classification and Labelling

- The following safety phrases should appear on the MSDS and label for the notified chemical:
  - S23 Do not breathe vapour or spray
  - S24/25 Avoid contact with skin and eyes
  - S37 Wear suitable gloves
  - S38 In case of insufficient ventilation, wear suitable respiratory equipment
  - S45 In case of accident or if you feel unwell seek medical advice immediately (and show the label where possible)

##### Exposure Standard

- A short term exposure limit (STEL) of 7 mg/m<sup>3</sup> and long term time-weighted-average (TWA) exposure limit of 0.02 mg/m<sup>3</sup> applies for the airborne concentration of all isocyanates in the workplace.

##### Health Surveillance

- As the notified polymer is a respiratory sensitiser, employers should carry out health surveillance for any worker who has been identified in the workplace risk assessment as having a significant risk of asthma.

##### Material Safety Data Sheet

- The MSDS provided by the notifier for Desmodur XP 2575 should be amended as follows:
  - The following safety phrases should be added:
    - S24/25 Avoid contact with skin and eyes

- S38 In case of insufficient ventilation, wear suitable respiratory equipment
- The MSDS provided by the notifier for PURBOND HB 712 should be amended as follows:
  - Australian contact details should be added.
  - The following safety phrase should be added:
    - S38 In case of insufficient ventilation, wear suitable respiratory equipment

## CONTROL MEASURES

### Occupational Health and Safety

- Employers should ensure that the facility is equipped such that operations involving the notified polymer are performed in a highly controlled manner. The following isolation and engineering controls should be in place to minimise occupational exposure to the notified polymer as introduced in Desmodur XP 2575, and as diluted for use, in the product, PURBOND HB 712:
  - Automated processes
  - Local exhaust ventilation
  - Sealed equipment.
- Employers should implement the following safe work practices to minimise occupational exposure during handling of the notified polymer as introduced in Desmodur XP 2575, and as diluted for use, in the product PURBOND HB 712:
  - Avoid inhalation of vapours, mists and aerosols
  - Avoid contact with skin and eyes
  - Clean spills immediately, taking care to avoid inhalation
- Employers should ensure that the following personal protective equipment is used by workers to minimise occupational exposure to the notified polymer as introduced in Desmodur XP 2575, and as diluted for use, in the product PURBOND HB 712:
  - Organic vapour respirator (as needed)
  - Gloves, overalls and goggles or face-shield

Guidance in selection of personal protective equipment can be obtained from Australian, Australian/New Zealand or other approved standards.

- A copy of the MSDS should be easily accessible to employees.
- If products and mixtures containing the notified polymer are classified as hazardous to health in accordance with the *Approved Criteria for Classifying Hazardous Substances* [NOHSC:1008(2004)] workplace practices and control procedures consistent with provisions of State and Territory hazardous substances legislation must be in operation.

### Disposal

- The notified polymer should be disposed of to landfill.

### Storage

- Avoid contact with water.

### Emergency procedures

- Spills/release of the notified polymer should be handled by physical containment, collection and subsequent disposal to landfill.

## Regulatory Obligations

### *Secondary Notification*

This risk assessment is based on the information available at the time of notification. The Director may call for the reassessment of the polymer under secondary notification provisions based on changes in certain

circumstances. Under Section 64 of the *Industrial Chemicals (Notification and Assessment) Act (1989)* the notifier, as well as any other importer or manufacturer of the notified polymer, have post-assessment regulatory obligations to notify NICNAS when any of these circumstances change. These obligations apply even when the notified polymer is listed on the Australian Inventory of Chemical Substances (AICS).

Therefore, the Director of NICNAS must be notified in writing within 28 days by the notifier, other importer or manufacturer:

- (1) Under Section 64(1) of the Act; if
  - Additional information becomes available on the inhalation toxicity of the notified polymer.
  - the polymer has a number-average molecular weight of less than 1000 Da.or
- (2) Under Section 64(2) of the Act; if
  - the function or use of the polymer has changed from a component of moisture-curing adhesive systems for engineered wood, or is likely to change significantly;
  - the amount of polymer being introduced has increased from 500 tonnes, or is likely to increase, significantly;
  - if the polymer has begun to be manufactured in Australia;
  - additional information has become available to the person as to an adverse effect of the polymer on occupational health and safety, public health, or the environment.

The Director will then decide whether a reassessment (i.e. a secondary notification and assessment) is required.

#### *Material Safety Data Sheet*

The MSDS of products containing the notified polymer provided by the notifier were reviewed by NICNAS. The accuracy of the information on the MSDS remains the responsibility of the applicant.

## **APPENDIX A: PHYSICAL AND CHEMICAL PROPERTIES**

**Pour Point** -21°C

Method DIN ISO 3016  
Remarks Data source: MSDS  
Test Facility Bayer Germany

**Density** 1155 kg/m<sup>3</sup> at 20°C

Method DIN 51757  
Remarks Data source: MSDS  
Test Facility Bayer Germany

**Vapour Pressure** 110 kPa at or 20°C

Method EC Directive 92/69/EEC A.4 Vapour Pressure.  
Remarks Data source: MSDS  
Test Facility Bayer Germany

**Viscosity** 3800 mPa.s at 23°C

Method DIN EN ISO 3219/A.3  
Remarks Data source: MSDS  
Test Facility Bayer Germany

**Flash Point** 213°C

Method EC Directive 92/69/EEC A.9 Flash Point.  
Remarks Data source: MSDS  
Test Facility Bayer Germany

**Autoignition Temperature** >500°C

Method DIN 51794  
Remarks Data source: MSDS  
Test Facility Bayer Germany

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