

Purocol**1. Identification of the substance/preparation and the company**

- 1.1 Identification of the substance or preparation:**
- Not applicable
- 1.2 Use of the substance or the preparation:**
Polyurethane
- 1.3 Company/undertaking identification:**
SOUDAL N.V.
Everdongenlaan 18-20
B-2300 Turnhout
Tel. : +32 14 42 42 31
Fax : +32 14 44 39 71
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Brandweerinformatiecentrum voor gevaarlijke stoffen (B.I.G.)
Technische Schoolstraat 43 A, B-2440 Geel

2. Composition/information on ingredients

Hazardous ingredients	CAS No. EINECS/ELINCS No.	Conc. in %	Hazard symbol	Risks (R-phrases)
diethylmethylbenzenediamine	68479-98-1 270-877-4	1 - 5	Xn;N	21/22-36-48/22-50/53 (1)
polymethylenepolyphenylisocyanate	9016-87-9 -	> 25	Xn	20-36/37/38-42/43 (1)

(1) For R-phrases in full: see heading 16

3. Hazards identification

- Harmful by inhalation
- Irritating to eyes, respiratory system and skin
- May cause sensitization by inhalation and skin contact

4. First aid measures

- 4.1 Eye contact:**
- Rinse immediately with plenty of water
 - Seek medical advice
- 4.2 Skin contact:**
- Rinse immediately with plenty of water
 - If irritation persists: seek medical advice
- 4.3 After inhalation:**
- Remove the victim into fresh air
 - Seek medical advice
- 4.4 After ingestion:**
- Never give water to an unconscious person
 - Do not induce vomiting
 - Seek medical advice

5. Fire-fighting measures

- 5.1 Suitable extinguishing media:**
- Water spray
 - Polyvalent foam
 - BC powder
 - Carbon dioxide
- 5.2 Unsuitable extinguishing media:**
- No data available
- 5.3 Special exposure hazards:**
- On burning: release of toxic and corrosive gases/vapours: nitrous vapours, carbon monoxide and carbon dioxide
- 5.4 Instructions:**
- Cool closed containers with water if they are exposed to the fire
 - Dilute toxic gases with water spray
 - Do not move the load if exposed to heat
- 5.5 Special protective equipment for firefighters:**
- Heat/fire exposure: compressed air/oxygen apparatus
 - Protective clothing for exposure to chemicals

6. Accidental release measures

- 6.1 Personal protection/precautions:**
see heading 8.2/8.3/13
- 6.2 Environmental precautions:**
- Contain released substance
- 6.3 Methods of cleaning up:**
- Solid spill: cover with dry absorbent material
 - Collect the spill only if it is in a dry state
 - Clean contaminated surfaces with an excess of water
 - Wash clothing and equipment after handling

7. Handling and storage

7.1 Handling:

- Observe very strict hygiene - avoid contact
- Remove contaminated clothing immediately
- Clean contaminated clothing

7.2 Storage:

- Keep container tightly closed
- Store in a dry area
- Ventilation at floor level
- Keep only in the original container
- Keep away from: heat sources, water/moist

Storage temperature	: 0/50	°C
Quantity limit	: N.D.	kg
Storage life	: < 365	days
Materials for packaging	:	
- suitable	: polyethylene	

7.3 Specific uses:

- See information supplied by the manufacturer

8. Exposure controls/Personal protection

8.1 Exposure limit values:

POLYMETHYLENEPOLYPHENYLISOCYANATE:

TLV-TWA	:	mg/m ³		ppm
TLV-STEL	:	mg/m ³		ppm
TLV-Ceiling	:	mg/m ³		ppm
MEL-LTEL	: 0.02 (-NCO)	mg/m ³	-	ppm
MEL-STEL	: 0.07 (-NCO)	mg/m ³	-	ppm
MAK	: -	mg/m ³	-	ppm
TRK	:	mg/m ³		ppm
MAC-TGG 8 h	:	mg/m ³		
MAC-TGG 15 min.	:	mg/m ³		
MAC-Ceiling	:	mg/m ³		
VME-8 h	:	mg/m ³		ppm
VLE-15 min.	:	mg/m ³		ppm
GWBB-8 h	:	mg/m ³		ppm
GWK-15 min.	:	mg/m ³		ppm
Momentary value	:	mg/m ³		ppm
EC	:	mg/m ³		ppm
EC-STEL	:	mg/m ³		ppm

8.2 Exposure controls:**8.2.1 Occupational exposure controls:**

- Measure the concentration in the air regularly

8.2.2 Environmental exposure controls: see heading 13**8.3.1 respiratory protection:**

- In case of insufficient ventilation: respiratory protection with filtertype A

8.3.2 hand protection:

- Chemically resistant gloves suitable materials:

GIVE GOOD RESISTANCE:
polyethylene

8.3.3 eye protection:

- Safety glasses

8.3.4 skin protection:

- Suitable protective clothing suitable materials:

GIVE GOOD RESISTANCE:
polyethylene

9. Physical and chemical properties**9.1 General information:**

Appearance (at 20°C)	: Paste
Odour	: Characteristic
Colour	: Colourless

9.2 Important health, safety and environmental information:

pH value	: N.D.	
Boiling point/boiling range	: N.D.	°C
Flashpoint	: > 165	°C
Explosion limits	: N.D.	Vol%
Vapour pressure (at 20°C)	: N.D.	hPa
Vapour pressure (at 50°C)	: N.D.	hPa
Relative density (at 20°C)	: N.D.	
Water solubility	: Reacts with water	
Soluble in	: No data available	
Relative vapour density	: > 2	
Viscosity (at 20°C)	: N.D.	Pa.s
Partition coefficient n-octanol/water	: N.D.	
Evaporation rate		
ratio to butyl acetate	: N.D.	
ratio to ether	: N.D.	

9.3 Other information:

Melting point/melting range	: N.D.	°C
Auto-ignition point	: N.D.	°C
Saturation concentration	: N.D.	g/m ³

10. Stability and reactivity**10.1 Conditions to avoid/reactivity:**

- Unstable on exposure to moisture

10.2 Materials to avoid:

- Keep away from: heat sources, water/moist

10.3 Hazardous decomposition products:

- Reacts slowly with water (moisture): release of carbon dioxide: pressure rise and possible bursting of container
- Decomposes on exposure to temperature rise: release of toxic/combustible gases/vapours: hydrogen cyanide
- On burning: release of toxic and corrosive gases/vapours: nitrous vapours, carbon monoxide and carbon dioxide

11. Toxicological information

11.1 Acute toxicity:

DIETHYLMETHYLBENZENEDIAMINE

LD50 oral rat	: > 598	mg/kg
LD50 dermal rabbit	: > 2000	mg/kg
LD50 dermal rabbit	: > 700	mg/kg

POLYMETHYLENENPOLYPHENYLISOCYANATE:

LD50 oral rat	: > 10000	mg/kg
LD50 dermal rabbit	: N.D.	mg/kg
LD50 dermal rabbit	: > 5000	mg/kg

11.2 Chronic toxicity:

POLYMETHYLENENPOLYPHENYLISOCYANATE:

EC carc. cat.	: not listed
EC muta. cat.	: not listed
EC repr. cat.	: not listed
Carcinogenicity (TLV)	: not listed
Carcinogenicity (MAC)	: not listed
Carcinogenicity (VME)	: not listed
Carcinogenicity (GWBB)	: not listed
Carcinogenicity (MAK)	: category 3B
Mutagenicity (MAK)	: not listed
Teratogenicity (MAK)	: Group -
IARC classification	: 3

11.3 Routes of exposure: ingestion, inhalation, eye and skin

11.4 Acute effects/symptoms:

AFTER INHALATION:

- Dry/sore throat
- Coughing
- Irritation of the respiratory tract
- Irritation of the nasal mucous membranes
- Runny nose

FOLLOWING SYMPTOMS MAY APPEAR LATER:

- Inflammation of the respiratory tract
- Risk of lung oedema
- Respiratory difficulties

AFTER SKIN CONTACT:

- Tingling/irritation of the skin

AFTER INGESTION:

- Irritation of the gastric/intestinal mucosa

AFTER EYE CONTACT:

- Irritation of the eye tissue
- Lacrimation

11.5 Chronic effects:

- May cause sensitization by skin contact
- May cause sensitization by inhalation
- Not listed in carcinogenicity class (IARC, EC, TLV, MAK)
- Not listed in mutagenicity class (EC, MAK)
- Not classified as toxic to reproduction (EC)

ON CONTINUOUS EXPOSURE/CONTACT:

- Body temperature rise
- Tremor
- Feeling of weakness
- Headache
- Skin rash/inflammation
- May stain the skin
- Dry skin
- Risk of pneumonia

12. Ecological information

12.1 Ecotoxicity:

DIETHYLMETHYLBENZENEDIAMINE:

- LC50 (48 h) : 194 mg/l (LEUCISCUS IDUS)
- EC50 (48 h) : 0.5 mg/l (DAPHNIA MAGNA)

12.2 Mobility:

- Volatile organic compounds (VOC): 0.1%
insoluble in water

For other physicochemical properties see heading 9

12.3 Persistence and degradability:

- Biodegradation BOD₅ : N.D. % ThOD
- Water : No data available
- Soil : T $\frac{1}{2}$ N.D. days

12.4 Bioaccumulative potential:

- log P_{ow} : N.D.
- BCF : N.D.

12.5 Other adverse effects:

- WGK : - (classification in compliance with
Verwaltungsvorschrift wassergefährdender Stoffe (VwVwS)
of 17 May 1999)
- Effect on the ozone layer : Not dangerous for the ozone
layer (1999/45/EC)
- Greenhouse effect : No data available
- Effect on waste water purification : No data available

13. Disposal considerations

13.1 Provisions relating to waste:

- Waste material code (91/689/EEC, Council Decision 2001/118/EC, O.J. L47 of 16/2/2001): 08 04 09* (waste adhesives and sealants containing organic solvents or other dangerous substances)
- Hazardous waste (91/689/EEC)

13.2 Disposal methods:

- Remove to an authorized incinerator equipped with an afterburner and a flue gas scrubber

13.3 Packaging:

- Waste material code packaging (91/689/EEC, Council Decision 2001/118/EC, O.J. L47 of 16/2/2001): 15 01 10* (packaging containing residues of or contaminated by dangerous substances)

14. Transport information

- 14.1 Classification of the substance in compliance with UN Recommendations
- | | | |
|----------------------|---|-------------|
| UN number | : | - |
| CLASS | : | NOT SUBJECT |
| SUB RISKS | : | |
| PACKING | : | |
| PROPER SHIPPING NAME | : | |
- 14.2 ADR (transport by road)
- | | | |
|-----------------------|---|-------------|
| CLASS | : | NOT SUBJECT |
| PACKING | : | |
| CLASSIFICATION CODE | : | |
| DANGER LABEL TANKS | : | |
| DANGER LABEL PACKAGES | : | |
- 14.3 RID (transport by rail)
- | | | |
|-----------------------|---|-------------|
| CLASS | : | NOT SUBJECT |
| PACKING | : | |
| CLASSIFICATION CODE | : | |
| DANGER LABEL TANKS | : | |
| DANGER LABEL PACKAGES | : | |
- 14.4 ADNR (transport by inland waterways)
- | | | |
|-----------------------|---|-------------|
| CLASS | : | NOT SUBJECT |
| PACKING | : | |
| CLASSIFICATION CODE | : | |
| DANGER LABEL TANKS | : | |
| DANGER LABEL PACKAGES | : | |
- 14.5 IMDG (maritime transport)
- | | | |
|------------------|---|-------------|
| CLASS | : | NOT SUBJECT |
| SUB RISKS | : | |
| PACKING | : | |
| MFAG | : | |
| EMS | : | |
| MARINE POLLUTANT | : | |
- 14.6 ICAO (air transport)
- | | | |
|---|---|-------------|
| CLASS | : | NOT SUBJECT |
| SUB RISKS | : | |
| PACKING | : | |
| PACKING INSTRUCTIONS PASSENGER AIRCRAFT | : | |
| PACKING INSTRUCTIONS CARGO AIRCRAFT | : | |
- 14.7 Special precautions in connection with transport
- | | | |
|--|---|--|
| | : | Not restricted for any mode of international transport |
|--|---|--|

15. Regulatory information

Labelling in accordance with directives 67/548/EEC and 1999/45/EC



Harmful

Contains	:	polymethylenepolyphenylisocyanate
R20	:	Harmful by inhalation
R36/37/38	:	Irritating to eyes, respiratory system and skin
R42/43	:	May cause sensitisation by inhalation and skin contact
S(02)	:	(Keep out of reach of children)
S23	:	Do not breathe vapour
S36/37	:	Wear suitable protective clothing and gloves
S45	:	In case of accident or if you feel unwell, seek medical advice (show the label where possible)
S(63)	:	(In case of accident by inhalation: remove casualty to fresh air and keep at rest)
		Contains isocyanates. See information supplied by the manufacturer

16. Other information

The information provided on this MSDS 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 as 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 material or in any process, unless specified in the text.

N.A. = NOT APPLICABLE
N.D. = NOT DETERMINED
(*) = INTERNAL CLASSIFICATION (NFPA)

Exposure limits:

TLV : Threshold Limit Value - ACGIH US 2004
OES : Occupational Exposure Standards - United Kingdom 2003
MEL : Maximum Exposure Limits - United Kingdom 2003
MAK : Maximale Arbeitsplatzkonzentrationen - Germany 2002
TRK : Technische Richtkonzentrationen - Germany 2002
MAC : Maximale aanvaarde concentratie - the Netherlands 2004
VME : Valeurs limites de Moyenne d'Exposition - France 1999
VLE : Valeurs limites d'Exposition à court terme - France 1999
GWBB : Grenswaarde beroepsmatige blootstelling - Belgium 2002
GWK : Grenswaarde kortstondige blootstelling - Belgium 2002
EC : Indicative occupational exposure limit values - directive 2000/39/EC

I : Inhalable fraction = **T** : Total dust = **E** : Einatembarer Aerosolanteil
R : Respirable fraction = **A** : Alveolengängiger Aerosolanteil/Alveolar dust
C : Ceiling limit

a:	aerosol	r:	rook/Rauch	(fume)
d:	damp (vapour)	st:	stof/Staub	(dust)
du:	dust	ve:	vezel	(fibre)
fa:	Faser (fibre)	va:	vapour	
fi:	fibres	om:	oil mist	
fu:	fume	on:	olienevel/Ölnebel	(oil mist)
p:	poussière (dust)	part:	particles	

Chronic toxicity:

K : List of the carcinogenic substances and processes - The Netherlands 2005

Full text of any R-phrases referred to under heading 2:

R20 : Harmful by inhalation
R21/22 : Harmful in contact with skin and if swallowed
R36 : Irritating to eyes
R36/37/38 : Irritating to eyes, respiratory system and skin
R42/43 : May cause sensitization by inhalation and skin contact
R48/22 : Harmful: danger of serious damage to health by prolonged exposure if swallowed
R50/53 : Very toxic to aquatic organisms; may cause long-term adverse effects in the aquatic environment