

S1301 M, PART B

1. Identification of the substance/preparation and of the company/undertaking

1.1 Identification of the substance or preparation:

Synonyms: none
 CAS No. : N.A.
 EC index No. : N.A. NFPA code : N.D.
 EINECS No. : N.A. Molecular weight : N.A.
 RTECS No. : N.A. Formula : N.A.

1.2 Use of the substance or the preparation:

Epoxy resin: Hardener
 Industrial use

1.3 Company/undertaking identification:

TYCO ADHESIVES
 Nieuwlandlaan B15
 B-3200 Aarschot
 Tel. : +32 477 57 28 88
 Fax : +32 16 55 36 74

1.4 Telephone number for emergency:

+32 14 58 45 45
 Brandweerinformatiecentrum voor gevaarlijke stoffen (B.I.G.)
 Technische Schoolstraat 43A, B-2440 Geel

2. Composition/information on ingredients

Hazardous ingredients	CAS No. EINECS/ELINCS No.	Conc. in %	Hazard symbol	Risks (R-phrases)
trimethylhexane-1,6-diamine	25620-58-0 247-134-8	2.6 -3.6	Xn	22-37/38-41-43-52/53 (1)
phenol	108-95-2 203-632-7	0.9 -1.6	T;C	23/24/25-34- 48/20/21/22-68 (1)
triethylenetetramine	112-24-3 203-950-6	1.7	C	21-34-43-52/53 (1)

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

3. Hazards identification

- Harmful if swallowed
- Causes burns
- May cause sensitisation by skin contact
- Possible risk of irreversible effects

4. First aid measures

4.1 Eye contact:

- Consult a doctor/medical service
- Rinse immediately with plenty of water for 15 minutes
- Do not apply neutralizing agents

4.2 Skin contact:

- Consult a doctor/medical service
- Wash immediately with lots of water and soap for 15 minutes
- Remove clothing while washing

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4.3 After inhalation:

- Consult a doctor/medical service if breathing problems develop
- Remove the victim into fresh air
- Unconscious: maintain adequate airway and respiration

4.4 After ingestion:

- Consult a doctor/medical service if you feel unwell
- Immediately give lots of water to drink
- Never give water to an unconscious person
- Do not induce vomiting

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:

- May burn
- On burning: release of toxic and corrosive gases/vapours (nitrous vapours, carbon monoxide - carbon dioxide)

5.4 Instructions:

- Dilute toxic gases with water spray
- Take account of toxic firefighting water
- Use firefighting water moderately and contain it

5.5 Special protective equipment for firefighters:

- Corrosionproof suit
- Heat/fire exposure: compressed air/oxygen apparatus

6. Accidental release measures

6.1 Personal protection/precautions:

See heading 8.2/8.3/13

6.2 Environmental precautions:

- Prevent soil and water pollution
- Prevent spreading in sewers
- Contain released substance, pump over in suitable containers
- Plug the leak, cut off the supply
- Dam up the liquid spill

6.3 Methods for cleaning up:

- Take up liquid spill into absorbent material, e.g.: sand/earth
- Scoop absorbed substance into closing containers
- Carefully collect the spill/leftovers
- Damaged/cooled tanks must be emptied
- Clean contaminated surfaces with an excess of water
- Take collected spill to manufacturer/competent authority
- Wash clothing and equipment after handling

7. Handling and storage

7.1 Handling:

- Observe very strict hygiene - avoid contact
- Do not discharge the waste into the drain
- Remove contaminated clothing immediately
- Clean contaminated clothing

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7.2 Storage:

- Keep container tightly closed
- Keep container in a well-ventilated place
- Provide for a tub to collect spills
- Meet the legal requirements
- Keep away from: heat sources, acids, oxidizing agents

Storage temperature	: N.D.	°C
Quantity limits	: N.D.	kg
Storage life	: N.D.	days
Materials for packaging	:	
- suitable	: no data available	
- to avoid	: no data available	

7.3 Specific uses:

- See information supplied by the manufacturer

8. Exposure controls/Personal protection

8.1 Exposure limit values:

phenol

TLV-TWA	:		mg/m ³	5		ppm
TLV-STEL	:		mg/m ³	-		ppm
TLV-Ceiling	:		mg/m ³			ppm
MEL-LTEL	:	-	mg/m ³	2		ppm
MEL-STEL	:	-	mg/m ³	-		ppm
MAK	:		mg/m ³			ppm
TRK	:		mg/m ³			ppm
MAC-TGG 8 h	:	8	mg/m ³			
MAC-TGG 15 min.	:		mg/m ³			
MAC-Ceiling	:		mg/m ³			
VME-8 h	:	19	mg/m ³	5		ppm
VLE-15 min.	:	-	mg/m ³	-		ppm
GWBB-8 h	:	7.8	mg/m ³	2		ppm
GWK-15 min.	:	-	mg/m ³	-		ppm
Momentary value	:		mg/m ³			ppm
EC	:	7.8	mg/m ³	2		ppm
EC-STEL	:	-	mg/m ³	-		ppm

Sampling methods:

- Phenol (Cresols)	NIOSH 2546
- Phenol	OSHA 32
- Triethylene Tetramine	OSHA 60
- Amines, Aliphatic	NIOSH 2010
- Triethylene Tetramine (Ethylenediamine)	NIOSH 2540

8.2 Exposure controls:

8.2.1 Occupational exposure controls:

- Measure the concentration in the air regularly
- Work under local exhaust/ventilation

8.2.2 Environmental exposure controls: see heading 13

8.3 Personal protection:

8.3.1 respiratory protection:

- High vapour concentration: gas mask with filter A

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8.3.2 hand protection:

- Gloves
Suitable materials: No data available
- Breakthrough time: N.D.

8.3.3 eye protection:

- Face shield

8.3.4 skin protection:

- Corrosionproof clothing
Suitable materials: No data available

9. Physical and chemical properties

9.1 General information:

Appearance (at 20°C)	: Liquid
Odour	: Amine
Colour	: N.D.

9.2 Important health, safety and environmental information:

pH value	: 11		
Boiling point/boiling range	: > 200	°C	
Flashpoint	: > 118	°C	
Explosion limits	: N.D.	vol% (°C)
Vapour pressure (at 20°C)	: 0.4	hPa	
Vapour pressure (at 50°C)	: N.D.	hPa	
Relative density (at 20°C)	: 0.98		
Water solubility	: Poorly soluble		
Soluble in	: N.D.		
Relative vapour density	: N.D.		
Viscosity	: 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:

- Stable under normal conditions

10.2 Materials to avoid:

- Keep away from: heat sources, acids, oxidizing agents

10.3 Hazardous decomposition products:

- On burning: release of toxic and corrosive gases/vapours (nitrous vapours, carbon monoxide - carbon dioxide)

11. Toxicological information

11.1 Acute toxicity:

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LD50 oral rat	: 1030	mg/kg
LD50 dermal rat	: N.D.	mg/kg
LD50 dermal rabbit	: N.D.	mg/kg
LC50 inhalation rat	: > 0.18	mg/l/4 h
LC50 inhalation rat	: N.D.	ppm/4 h

phenol

LD50 oral rat	: 317/650	mg/kg
LD50 dermal rat	: 669	mg/kg
LD50 dermal rabbit	: 850/1400	mg/kg
LC50 inhalation rat	: N.D.	mg/l/4 h
LC50 inhalation rat	: N.D.	ppm/4 h

11.2 Chronic toxicity:

phenol

EC carc. cat.	: not listed
EC muta. cat.	: 3
EC repr. cat.	: not listed

Carcinogenicity (TLV)	: A4
Carcinogenicity (MAC)	: not listed
Carcinogenicity (VME)	: not listed
Carcinogenicity (GWBB)	: not listed

Carcinogenicity (MAK)	: 3B
Mutagenicity (MAK)	: not listed
Teratogenicity (MAK)	: not listed

IARC classification	: 3
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11.3 Routes of exposure: ingestion, inhalation, eyes and skin

11.4 Acute effects/symptoms:

- **AFTER INHALATION**
- EXPOSURE TO HIGH CONCENTRATIONS:
 - Corrosion of the upper respiratory tract
- **AFTER INGESTION**
- Burns to the gastric/intestinal mucosa
- **AFTER SKIN CONTACT**
- Caustic burns/corrosion of the skin
- **AFTER EYE CONTACT**
- Corrosion of the eye tissue

11.5 Chronic effects:

- May cause sensitization by skin contact
- No certainty about human mutagenic properties
- Contains substance with uncertain carcinogenic properties (phenol)
- Not classified as toxic to reproduction (EC)
- **ON CONTINUOUS/REPEATED EXPOSURE/CONTACT:**
- Skin rash/inflammation

12. Ecological information

12.1 Ecotoxicity:

- No data available

12.2 Mobility:

- **Volatile organic compounds (VOC):** 1/2%
- Poorly soluble in water

For other physicochemical properties see heading 9

12.3 Persistence and degradability:

- **biodegradation BOD₅** : N.D. % ThOD
- **water** : - N.D.
- **soil** : **T ½:** N.D. **days**

12.4 Bioaccumulative potential:

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

12.5 Other adverse effects:

- **WGK** : 2 (Classification based on the components 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:

- Hazardous waste (91/689/EEC)
- Mix well, set outdoor, next day dispose as solid waste, follow local regulations.

13.2 Disposal methods:

- Remove to an authorized incinerator equipped with an afterburner and a flue gas scrubber
- Allow waste to solidify
- Remove to an authorized dump (Class I)
- Contains a component for which a prohibition exists against discharge into surface water (phenol)

13.3 Packaging/Container:

- 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

80

2735

14.1 Classification of the substance in compliance with UN Recommendations

UN number : 2735
 CLASS : 8
 SUB RISKS : -
 PACKING : II
 PROPER SHIPPING NAME :
 UN 2735, Amines, liquid, corrosive, n.o.s. (trimethylhexane-1,6-diamine;
 phenol)

14.2 ADR (transport by road)

CLASS : 8
 PACKING : II
 CLASSIFICATION CODE :
 DANGER LABEL TANKS : 8
 DANGER LABEL PACKAGES : 8

14.3 RID (transport by rail)

CLASS : 8
 PACKING : II
 CLASSIFICATION CODE :
 DANGER LABEL TANKS : 8
 DANGER LABEL PACKAGES : 8

14.4 ADNR (transport by inland waterways)

CLASS : 8
 PACKING : II
 CLASSIFICATION CODE :
 DANGER LABEL TANKS : 8
 DANGER LABEL PACKAGES : 8

14.5 IMDG (maritime transport)

CLASS : 8
 SUB RISKS : -
 PACKING : II
 MFAG : -
 EMS : F-A, S-B
 MARINE POLLUTANT : -

14.6 ICAO (air transport)

CLASS : 8
 SUB RISKS : -
 PACKING : II
 PACKING INSTRUCTIONS PASSENGER AIRCRAFT : 808/Y808
 PACKING INSTRUCTIONS CARGO AIRCRAFT : 812

14.7 Special precautions in connection with transport : none

14.8 Limited quantities (LQ) :

When substances and their packaging meet the conditions established by ADR/RID/ADNR in chapter 3.4, **only** the following prescriptions shall be complied with:

each package shall display a diamond-shaped figure with the following inscription:

- 'UN 2735'

or, in the case of different goods with different identification numbers within a single package:

- the letters 'LQ'

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15. Regulatory information

Classification according to directives 67/548/EEC and 1999/45/EC



Corrosive

contains: trimethylhexane-1,6-diamine; phenol; triethylenetetramine

R22	:	Harmful if swallowed
R34	:	Causes burns
R43	:	May cause sensitisation by skin contact
R68	:	Possible risk of irreversible effects
S(01/02)	:	(Keep locked up and out of reach of children)
S26	:	In case of contact with eyes, rinse immediately with plenty of water and seek medical advice
S36/37/39	:	Wear suitable protective clothing gloves, and eye/face protection
S45	:	In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible)

16. Other information

Users are advised that they may have additional disclosure obligations under other national and local laws. Users are advised to ensure that this information is brought to the attention of all employees, agents, and contractors handling this product. Users of Tyco Adhesives products should make their own evaluation to determine the suitability of each such product for the specific application and to establish safe handling and installation procedures. Distributors of this product are advised to forward this document, or the information contained herein, to every purchaser of this product.

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

Exposure limits:

TLV : Threshold Limit Value - ACGIH USA 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 :	fibre	om :	oil mist	
fu :	fume	on :	olienevel/Ölnebel	(oil mist)
p :	poussière (dust)	part :	particles	

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Chronic toxicity:

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

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

R21 : Harmful in contact with skin
R22 : Harmful if swallowed
R23/24/25 : Toxic by inhalation, in contact with skin and if swallowed
R34 : Causes burns
R37/38 : Irritating to respiratory system and skin
R41 : Risk of serious damage to eyes
R43 : May cause sensitisation by skin contact
R48/20/21/2 : Harmful: danger of serious damage to health by prolonged exposure through inhalation, contact with skin and if swallowed
R52/53 : Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment
R68 : Possible risk of irreversible effects