

BONDING ADHESIVE E

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

1.1 Identification of the substance or preparation:

Product name : BONDING ADHESIVE E
 Synonyms : none
 CAS No. : N.A.
 EC index No. : N.A.
 EINECS No. : N.A.
 RTECS No. : N.A.
 NFPA code : N.D.
 Molecular weight : N.A.
 Formula : N.A.

1.2 Use of the substance/preparation:

- Adhesive

1.3 Company/undertaking identification:

Firestone Building Products
 Ikaroslaan 75
 B-1930 Zaventem
 Tel: +32 2 711 44 50
 Fax: +32 2 721 27 18
 e-mail address: info@fbpe.be

1.4 Emergency telephone:

+32 70 245 245 (24h/24h)
 Antigifcentrum
 p/a Militair Hospitaal Koningin Astrid, Bruynstraat 1, B-1120 Brussel

2. Hazards identification

- Highly flammable
- Irritating to skin
- Harmful: danger of serious damage to health by prolonged exposure through inhalation
- Toxic to aquatic organisms; may cause long-term adverse effects in the aquatic environment
- Possible risk of impaired fertility
- Possible risk of harm to the unborn child
- Harmful: may cause lung damage if swallowed
- Vapours may cause drowsiness and dizziness

3. Composition/information on ingredients

Hazardous ingredients	CAS No. EINECS/ELINCS No.	Conc. (%)	Hazards (R-phrases)	Hazard symbol
toluene	108-88-3 203-625-9	33	11-38-48/20-63-65-67 (1)	F;Xn
n-hexane	110-54-3 203-777-6	28	11-38-48/20-51/53-62-65-67 (1)	F;Xn;N
acetone	67-64-1 200-662-2	18	11-36-66-67 (1)	F;Xi

(1) For R-phrases in full: see heading 16
 (2) Substance with a Community workplace exposure limit
 (3) PBT-substance

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4. First aid measures

- 4.1 After inhalation:**
- Remove the victim into fresh air
 - Respiratory problems: consult a doctor/medical service
- 4.2 Skin contact:**
- Rinse immediately with plenty of water
 - Soap may be used
 - Take victim to a doctor if irritation persists
- 4.3 Eye contact:**
- Rinse immediately with plenty of water
 - Take victim to an ophthalmologist if irritation persists
- 4.4 After ingestion:**
- Rinse mouth with water
 - Do not induce vomiting
 - If you feel unwell: consult a doctor/medical service

5. Fire-fighting measures

- 5.1 Suitable extinguishing media:**
- Water spray
 - Polyvalent foam
 - BC powder
 - Carbon dioxide
- 5.2 Unsuitable extinguishing media:**
- Solid water jet ineffective as extinguishing medium
- 5.3 Special exposure hazards:**
- Gas/vapour spreads at floor level: ignition hazard
 - May build up electrostatic charges: risk of ignition
- 5.4 Instructions:**
- Cool tanks/drums with water spray/remove them into safety
 - Take account of environmentally hazardous firefighting water
 - Use firefighting water moderately and contain it
 - Do not move the load if exposed to heat
- 5.5 Special protective equipment for fire-fighters:**
- Heat/fire exposure: self-contained breathing apparatus
 - Large spills/in enclosed spaces: self-contained breathing apparatus

6. Accidental release measures

- 6.1 Personal precautions:**
See heading 8.2/13
- 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
 - Try to reduce evaporation
- 6.3 Methods for cleaning up:**
- Take up liquid spill into inert absorbent material, e.g.: sand/earth
 - Shovel absorbed substance in closing drums
 - Carefully collect the spill/leftovers
 - Damaged/cooled tanks must be emptied
 - Do not use compressed air for pumping over spills
 - Clean contaminated surfaces with an excess of water
 - Take collected spill to manufacturer/competent authority

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7. Handling and storage

7.1 Handling:

- Observe strict hygiene
- Use spark-/explosionproof appliances and lighting system
- Take precautions against electrostatic charges
- Handle uncleaned empty containers as full ones
- Do not discharge the waste into the drain

7.2 Storage:

- Keep container tightly closed
- Ventilation at floor level
- Provide for a tub to collect spills
- Meet the legal requirements
- Keep away from: heat sources, ignition sources, oxidizing agents, acids, bases

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

7.3 Specific use(s):

- See information supplied by the manufacturer for the identified use(s)

8. Exposure controls/Personal protection

8.1 Exposure limit values:

8.1.1 Occupational exposure:

toluene

TLV-TWA	:	mg/m ³	20	ppm
TLV-STEL	:	mg/m ³	-	ppm
TLV-Ceiling	:	mg/m ³		ppm
WEL-LTEL	: 191	mg/m ³	50	ppm
WEL-STEL	: 384	mg/m ³	100	ppm
TRGS 900	: 190	mg/m ³	50	ppm
MAK	: 190	mg/m ³	50	ppm
MAC-TGG 8 h	: 150	mg/m ³		
MAC-TGG 15 min.	: 384	mg/m ³		
MAC-Ceiling	:	mg/m ³		
VME-8 h	: 375	mg/m ³	100	ppm
VLE-15 min.	: 550	mg/m ³	150	ppm
GWBB-8 h	: 192	mg/m ³	50	ppm
GWK-15 min.	: 384	mg/m ³	100	ppm
Momentary value	:	mg/m ³		ppm
EC	: 192	mg/m ³	50	ppm
EC-STEL	: 384	mg/m ³	100	ppm

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n-hexane

TLV-TWA	:		mg/m ³	50	ppm
TLV-STEL	:		mg/m ³	-	ppm
TLV-Ceiling	:		mg/m ³		ppm
WEL-LTEL	:	72	mg/m ³	20	ppm
WEL-STEL	:	-	mg/m ³	-	ppm
TRGS 900	:	180	mg/m ³	50	ppm
MAK	:	180	mg/m ³	50	ppm
MAC-TGG 8 h	:	72	mg/m ³		
MAC-TGG 15 min.	:	144	mg/m ³		
MAC-Ceiling	:		mg/m ³		
VME-8 h	:	170	mg/m ³	50	ppm
VLE-15 min.	:	-	mg/m ³	-	ppm
GWBB-8 h	:	72	mg/m ³	20	ppm
GWK-15 min.	:	-	mg/m ³	-	ppm
Momentary value	:		mg/m ³		ppm
EC	:	72	mg/m ³	20	ppm
EC-STEL	:	-	mg/m ³	-	ppm

acetone

TLV-TWA	:		mg/m ³	500	ppm
TLV-STEL	:		mg/m ³	750	ppm
TLV-Ceiling	:		mg/m ³		ppm
WEL-LTEL	:	1210	mg/m ³	500	ppm
WEL-STEL	:	3620	mg/m ³	1500	ppm
TRGS 900	:	1200	mg/m ³	500	ppm
MAK	:	1200	mg/m ³	500	ppm
MAC-TGG 8 h	:	1210	mg/m ³		
MAC-TGG 15 min.	:	2420	mg/m ³		
MAC-Ceiling	:		mg/m ³		
VME-8 h	:	1210	mg/m ³	500	ppm
VLE-15 min.	:	-	mg/m ³	-	ppm
GWBB-8 h	:	1210	mg/m ³	500	ppm
GWK-15 min.	:	2420	mg/m ³	1000	ppm
Momentary value	:		mg/m ³		ppm
EC	:	1210	mg/m ³	500	ppm
EC-STEL	:	-	mg/m ³	-	ppm

8.1.2 Sampling methods:

- n-Hexane (Hydrocarbons, BP36 to 126C)	NIOSH 1500
- n-Hexane	OSHA 7
- Toluene (Hydrocarbons, aromatic)	NIOSH 1501
- Toluene	NIOSH 4000
- Toluene	OSHA CSI
- Toluene	NIOSH 1500
- Toluene	OSHA 07
- Acetone (ketones 1)	NIOSH 1300
- Acetone	OSHA 69

8.2 Exposure controls:

8.2.1 Occupational exposure controls:

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

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Personal protective equipment:

a) Respiratory protection:

- Gas mask with filter type A at conc. in air > exposure limit

b) Hand protection:

- Gloves
 - Suitable material: Neoprene
 - Nitrile rubber
 - PVA
- Breakthrough time: N.D.

c) Eye protection:

- Protective goggles

d) Skin protection:

- Head/neck protection
- Protective clothing
 - Suitable material: Neoprene
 - Nitrile rubber
 - PVA

8.2.2 Environmental exposure controls: see headings 6.2, 6.3 and 13

9. Physical and chemical properties

9.1 General information:

Appearance (at 20°C)	: Liquid
Odour	: Characteristic
Colour	: Yellow

9.2 Important health, safety and environmental information:

pH value (at %)	: N.D.	
Boiling point/boiling range	: 98	°C
Flashpoint/flammability	: -18	°C
Explosion limits (explosive properties)	: 1.2/13	vol%
Oxidising properties	: N.D.	
Vapour pressure (at 20°C)	: 233	hPa
Vapour pressure (at 50°C)	: N.D.	hPa
Relative density (at 20°C)	: 0.84	
Water solubility	: Insoluble	
Soluble in	: N.D.	
Relative vapour density	: > 3.0	
Viscosity (at °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
Specific conductivity	: N.D.	pS/m

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10. Stability and reactivity

10.1 Conditions to avoid:

- Stable under normal conditions

10.2 Materials to avoid:

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

10.3 Hazardous decomposition products:

- Upon combustion formation of CO, CO₂ and small quantities of hydrogen chloride

11. Toxicological information

11.1 Acute toxicity:

toluene

LD50 oral rat	: > 2000	mg/kg
LD50 dermal rabbit	: N.D.	mg/kg
LD50 dermal rabbit	: 12223	mg/kg
LC50 inhalation rat	: > 20	mg/l/4 h
LC50 inhalation rat	: N.D.	ppm/4 h

n-hexane

LD50 oral rat	: 28710	mg/kg
LD50 dermal rabbit	: N.D.	mg/kg
LD50 dermal rabbit	: > 2000	mg/kg
LC50 inhalation rat	: > 20	mg/l/4 h
LC50 inhalation rat	: > 50000	ppm/4 h

acetone

LD50 oral rat	: 5800	mg/kg
LD50 dermal rabbit	: 20000	mg/kg
LD50 dermal rabbit	: N.D.	mg/kg
LC50 inhalation rat	: 71	mg/l/4 h
LC50 inhalation rat	: 30000	ppm/4 h

11.2 Chronic toxicity:

EC carc. cat.	: not listed
EC muta. cat.	: not listed
EC repr. cat.	: 3 (n-hexane) (toluene)

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

Carcinogenicity (MAK)	: not listed
Mutagenicity (MAK)	: not listed
Teratogenicity (MAK)	: C (n-hexane) (toluene)
Teratogenicity (MAK)	: - (acetone)

IARC classification	: 3 (toluene)
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11.3 Routes of exposure:

ingestion, inhalation, eye and skin
Caution! Substance is absorbed through the skin

11.4 Acute effects/symptoms:

- **AFTER INHALATION**
- Irritation of the respiratory tract
- Irritation of the nasal mucous membranes
- **EXPOSURE TO HIGH CONCENTRATIONS:**
- CNS depression
- Headache
- Dizziness
- Feeling of weakness
- Narcosis
- Mental confusion
- Coordination disorders
- Disturbed motor response
- Disturbances of consciousness

- **AFTER INGESTION**
- Risk of aspiration pneumonia
- Nausea
- Abdominal pain
- Symptoms similar to those listed under inhalation

- **AFTER SKIN CONTACT**
- Tingling/irritation of the skin

- **AFTER EYE CONTACT**
- Irritation of the eye tissue

11.5 Chronic effects:

- Prolonged exposure: danger of damage to health through inhalation
- Causes damage to the central nervous system
- Possible risk of impaired fertility
- Possibly hazardous to the fetus

- Not listed in carcinogenicity class (IARC,EC,TLV,MAK)
- Not listed in mutagenicity class (EC,MAK)

- **ON CONTINUOUS/REPEATED EXPOSURE/CONTACT:**
- Dry skin
- Skin rash/inflammation
- Impairment of the nervous system
- Tremor
- Impaired memory
- Impaired concentration
- Brain affection
- Disturbances of heart rate
- Change in the haemogramme/blood composition
- Movement disturbances
- Myasthenia
- Cramps/uncontrolled muscular contractions
- Paralysis

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12. Ecological information

12.1 Ecotoxicity:

toluene:

- LC50 (96 h) : 24 mg/l (SALMO GAIRDNERI/ ONCORHYNCHUS MYKISS)
- EC50 (48 h) : 11.5/19.6 mg/l (DAPHNIA MAGNA)
- EC50 (72 h) : 12.5 mg/l (SELENASTRUM CAPRICORNUTUM)

n-hexane:

- LC50 (96 h) : 113 mg/l (TILAPIA MOSAMBICA)
- EC50 (48 h) : 2.1 mg/l (DAPHNIA MAGNA)
- EC50 (h) : 114 mg/l (CHLOROPHYTA)

acetone:

- LC50 (96 h) : 5540 mg/l (SALMO GAIRDNERI/ ONCORHYNCHUS MYKISS)
- EC50 (48 h) : 39 mg/l (DAPHNIA MAGNA)
- EC50 (96 h) : 7000 mg/l (SELENASTRUM CAPRICORNUTUM)

- **Effect on waste water purification** : no data available

12.2 Mobility:

- **Volatile organic compounds (VOC):** 79%
- 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 ½: N.D. days

12.4 Bioaccumulative potential:

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

12.5 Results of PBT assessment:

- Not applicable, on the basis of the available data.

12.6 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

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:

- Incinerate under surveillance with energy recovery
- Do not discharge into drains or the environment

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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 : 1133
CLASS : 3
SUB RISKS : -
PACKING GROUP : II

14.2 ADR (transport by road)

CLASS : 3
PACKING GROUP : II
CLASSIFICATION CODE : F1
DANGER LABEL TANKS : 3
DANGER LABEL PACKAGES : 3
PROPER SHIPPING NAME :
Adhesives, Special provision 640D

14.3 RID (transport by rail)

CLASS : 3
PACKING GROUP : II
CLASSIFICATION CODE : F1
DANGER LABEL TANKS : 3
DANGER LABEL PACKAGES : 3
PROPER SHIPPING NAME :
Adhesives, Special provision 640D

14.4 ADNR (transport by inland waterways)

CLASS : 3
PACKING GROUP : II
CLASSIFICATION CODE : F1
DANGER LABEL TANKS : 3
DANGER LABEL PACKAGES : 3

14.5 IMDG (maritime transport)

CLASS : 3
SUB RISKS : -
PACKING GROUP : II
MFAG : -
EMS : F-E, S-D
MARINE POLLUTANT : -

14.6 ICAO (air transport)

CLASS : 3
SUB RISKS : -
PACKING GROUP : II
PACKING INSTRUCTIONS PASSENGER AIRCRAFT : 305/Y305
PACKING INSTRUCTIONS CARGO AIRCRAFT : 307

14.7 Special precautions : 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 1133'

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

15.1 EU Legislation:

Labelling in accordance with EC directives 67/548/EEC, 1999/45/EC and 2006/8/EC



Highly flammable



Harmful



Dangerous for the environment

Contains: toluene; n-hexane

R11	:	Highly flammable
R38	:	Irritating to skin
R48/20	:	Harmful: danger of serious damage to health by prolonged exposure through inhalation
R51/53	:	Toxic to aquatic organisms; may cause long-term adverse effects in the aquatic environment
R62	:	Possible risk of impaired fertility
R63	:	Possible risk of harm to the unborn child
R65	:	Harmful: may cause lung damage if swallowed
R67	:	Vapours may cause drowsiness and dizziness

S07/09	:	Keep container tightly closed in a well-ventilated place
S16	:	Keep away from sources of ignition - No smoking
S33	:	Take precautionary measures against static discharges
S36/37	:	Wear suitable protective clothing and gloves
S61	:	Avoid release to the environment. Refer to special instructions/safety data sheets

A component (toluene) is subject to restrictions on the marketing and use set out in Directive 2005/59/EC (O.J. L309 of 25/11/2005)

15.2 National provisions:

the Netherlands:
Waterbezwaarlijkheid: 6

Germany:
WGK : 2 (Classification based on the components in compliance with Verwaltungsvorschrift wassergefährdender Stoffe (VwVwS) of 17 May 1999)

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16. Other information

The information provided on this SDS 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)

PBT-substances = persistent, bioaccumulative and toxic substances

Exposure limits:

TLV : Threshold Limit Value - ACGIH USA
WEL : Workplace Exposure Limits - United Kingdom
TRGS 900 : Technische Regel für Gefahrstoffe 900 (Arbeitsplatzgrenzwerte) - Germany
MAK : Maximale Arbeitsplatzkonzentrationen - Germany
MAC : Maximale aanvaarde concentratie - The Netherlands
VME : Valeurs limites de Moyenne d'Exposition - France
VLE : Valeurs Limites d'Exposition à court terme - France
GWBB : Grenswaarde beroepsmatige blootstelling - Belgium
GWK : Grenswaarde kortstondige blootstelling - Belgium
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	

Chronic toxicity:

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

Full text of any R-phrases referred to under headings 2 and 3:

R11 : Highly flammable
R36 : Irritating to eyes
R38 : Irritating to skin
R48/20 : Harmful: danger of serious damage to health by prolonged exposure through inhalation
R51/53 : Toxic to aquatic organisms; may cause long-term adverse effects in the aquatic environment
R62 : Possible risk of impaired fertility
R63 : Possible risk of harm to the unborn child
R65 : Harmful: may cause lung damage if swallowed
R66 : Repeated exposure may cause skin dryness or cracking
R67 : Vapours may cause drowsiness and dizziness