

Material Safety Data Sheet



PAGE: 1 of 5

DATE: 2009-10-12

1. IDENTIFICATION OF THE SUBSTANCE/ PREPARATION AND THE COMPANY/UNDERTAKING

Identification of the preparation: MARKSPIA JOINT ADHESIVE KIT – COMPONENT A

Supplier:	Emergency telephone number
JKC Corporation	Tel: 82-2-2636-7166
#B1, kyoung In B/D, 92-3, Dangsangdong-4ga	
Youngdeungpo-gu, Seoul, Korea	
TEL : 82-2-2636-7166	
FAX : 82-2-2632-6233	

2. COMPOSITION/ INFORMATION ON INGREDIENTS:

Chemical nature of the preparation: Synthetic resin(s) and filler(s).

Hazardous components:

methyl methacrylate:	30-60 weight(%)
XI: R36/37/38-43	
CAS-No:	80-62-6
EC-No:	201-297-1

3. HAZARDS IDENTIFICATION

Most important hazards	Highly flammable. Irritating to eyes, respiratory system and skin. May cause sensitization by skin contact
Specific hazards	None known

4. FIRST AID MEASURES

Inhalation: Move to fresh air. Oxygen or artificial respiration if needed. Consult physician after significant exposure.

Eye contact: Rinse thoroughly with plenty of water at least 18 minutes and consult a Physician. Keep eye wide open while rinsing.

Skin contact: Wash off immediately with soap and plenty of water.

Ingestion: Never give anything by mouth to unconscious person. Rinse mouth .
Ingest activated charcoal. Call a physician immediately.

5. FIRE-FIGHTING MEASURES:

Suitable extinguishing media: Use dry chemical, CO₂, Water spray or “alcohol” foam.

Extinguishing media which must not be used for safety reasons: high volume water jet

Material Safety Data Sheet



PAGE: 2 of 5

DATE: 2009-10-12

Identification of the preparation: MARKSPIA JOINT ADHESIVE KIT – COMPONENT A

6. ACCIDENTAL RELEASE MEASURES

Personal precautions: Ensure adequate ventilation. Use personal protective equipment.

Remove all sources of ignition.

Environmental precautions: Do not let product enter drains.

Methods for cleaning up: Soak up with inert absorbent material. Clean with detergents.

Avoid solvents.

7. HANDLING AND STORAGE

Handling: Technical measures/Precautions: Provide sufficient air exchange and/or exhaust in work rooms. Keep product and empty container away from heat and sources of ignition. Take precautionary measures against static discharges.

Storage: Technical measures/Storage conditions: Keep container tightly closed. Keep in a well-ventilated place.

Incompatible products not applicable

Packing material not applicable

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Personal protective equipment

Respiratory protection: Repeated and prolonged exposure to solvents may cause brain and Nervous system damage. It is good practice in industrial hygiene to Avoid contact with solvents by using appropriate protective measures Whenever possible.

Eye protection: safety glasses

Hand protection: solvent-resistant gloves

Hygiene measures: Keep away from food, drink and animal feeding stuffs. Wash hands before Breaks and at the end of workday.

Exposure controls

National occupational exposure limits

methyl methacrylate: TLV-TWA=100 ml/m³=410 mg/m³/A4/ACGIH(1997)

Material Safety Data Sheet



PAGE: 3 of 5

DATE: 2009-10-12

Identification of the preparation: MARKSPIA JOINT ADHESIVE KIT – COMPONENT A

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	Form:	liquid
	Color:	various
Odour:		acrylic
PH: (2) (at g/l H2O)		not applicable
Flash point:	10(2)	closed up
Vapour pressure: (20(2))	39hps	
Autoignition temperature:	430(2)	
Relative density: (2)	from 1.20kg/l	
	To 1.24kg/l	
Solubility:		
Water Solubility(2)	partly miscible	g/l
Viscosity:(2)	no data available	mpa.s
Explosion limits:	-lower 2.1 vol. %	
	-upper 12.5 vol. %	

10. STABILITY AND REACTIVITY:

Conditions to avoid : No decomposition if stored and applied as directed.

Hazardous decomposition products: methyl methacrylate monomer

Further information : vapours are heavier than air and may spread along floors.
vapours may from explosive mixtures with air.

11. TOXICOLOGICAL INFORMATION

Repeated and prolonged exposure to solvents may cause brain and nervous system damage.

Acute toxicity: methyl methacrylate: LD50/oral/rac = 7872 mg/kg, RTECS, 47796

Local effects not applicable

12. ECOLOGICAL INFORMATION

Ecotoxicity effects no data available

Material Safety Data Sheet



PAGE: 4 of 5

DATE: 2009-10-12

Identification of the preparation: MARKSPIA JOINT ADHESIVE KIT – COMPONENT A

13. DISPOSAL CONSIDERATIONS

Waste from residues / unused products: Do not allow material to contaminate ground water system.

Contaminated packaging: Can be incinerated . when in compliance with local regulations.

14. TRANSPORT INFORMATION

UN-NO: 3269

ADR/RID

Class: 3

Item: 5(C)

ADR/RID=Labels: 3

TREM-CARD: 30G80

HI/UN NO: :

Proper shipping name: Adhesives

ICAO

UN/ID NO : 1133

Class: 3

Sub risks:

Packing group: III

ICAO-Labels: Flammable liquid

Proper shipping name: Adhesives

IMO

Class: 3.2

IMDG Page: 3174

Sub risks:

Packing group: III

IMO-Labels: Flammable liquid

Pms: 3 -05

MPAG: 330

Proper shipping name: Adhesives

15. REGULATORY INFORMATION

The product is classified and labeled in accordance with EC-Directive 88/379

Symbol(s):

Xi -irritant, F -Rightly flammable

Contents:

methyl methacrylate

R-phrase:

R11- Rightly flammable

skin

R/36/37/38-Irritating to eyes, respiratory system and

R43-May cause sensitization by skin contact

S16-Keep away from source of ignition – No smoking

S23-Do not breathe vapour

S24/25-Avoid contact with skin and eyes

S37-Wear suitable gloves

S51-Use only in well ventilated areas

Material Safety Data Sheet



PAGE: 5 of 5

DATE: 2009-10-12

16. OTHER INFORMATION

When used in a mixture, read the labels and safety data sheet of all components,
END USE: adhesives.

Do not use in medical applications involving permanent implantation in the human body.

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.

Material Safety Data Sheet



PAGE: 1 of 5

DATE: 2009-10-12

1. IDENTIFICATION OF THE SUBSTANCE/ PREPARATION AND THE COMPANY/UNDERTAKING

Identification of the preparation: MARKSPIA JOINT ADHESIVE KIT – COMPONENT B

Supplier:

Emergency telephone number

JKC Corporation

Tel: 82-2-2636-7166

#B1, kyoung In B/D, 92-3, Dangsangdong-4ga

Youngdeungpo-gu, Seoul, Korea

TEL : 82-2-2636-7166

FAX : 82-2-2632-6233

2. COMPOSITION/ INFORMATION ON INGREDIENTS:

Chemical nature of the preparation: benzyl peroxide, plasticiser

Hazardous components:

Benzyl peroxide: ≥ 3.0 weight(%) *Tube Type: 5.0 weight(%), Cartridge Type: 3.1 weight(%)

XI: 36-43

CAS-No: 94-36-0

EC-No: 202-327-6

Butyl benzoyl phthalate: ≥ 60 weight(%) *Tube Type: 95.0weight(%), Cartridge Type: 60weight(%)

CAS-No: 84-74-2

EC-No: 201-557-4

3. HAZARDS IDENTIFICATION

Most important hazards

May cause sensitization by skin contact

Specific hazards

None known

4. FIRST AID MEASURES

Inhalation: Move to fresh air. Oxygen or artificial respiration if needed. Consult physician after significant exposure.

Eye contact: Rinse thoroughly with plenty of water at least 18 minutes and consult a Physician. Keep eye wide open while rinsing.

Skin contact: Wash off immediately with soap and plenty of water.

Ingestion: Never give anything by mouth to unconscious person. Rinse mouth . Ingest activated charcoal. Call a physician immediately.

5. FIRE-FIGHTING MEASURES:

Suitable extinguishing media: Use dry chemical, CO₂, Water spray or “alcohol” foam.

Extinguishing media which must not be used for safety reasons: high volume water jet

Material Safety Data Sheet



PAGE: 2 of 5

DATE: 2009-10-12

Identification of the preparation: MARKSPIA JOINT ADHESIVE KIT – COMPONENT B

6. ACCIDENTAL RELEASE MEASURES

Personal precautions: Ensure adequate ventilation. Use personal protective equipment.

Remove all sources of ignition.

Environmental precautions: Do not let product enter drains.

Methods for cleaning up: Soak up with inert absorbent material. Clean with detergents.

Avoid solvents.

7. HANDLING AND STORAGE

Handling: Technical measures/Precautions: Keep product and empty container away from heat and sources of ignition. **Safe handling advice:** do not smoke.

Storage: Technical measures/Storage conditions: Keep at temperatures below 30°C. Water mist may be used to cool closed containers.

Incompatible products: Reacts violently in contact with acids, amines, driers.

Polimerization accelerators and easily oxidized materials.

Packing material : not applicable

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Personal protective equipment

Respiratory protection: Repeated and prolonged exposure to solvents may cause brain and Nervous system damage. It is good practice in industrial hygiene to Avoid contact with solvents by using appropriate protective measures Whenever possible.

Eye protection: safety glasses

Hand protection: solvent-resistant gloves

Hygiene measures: Keep away from food, drink and animal feeding stuffs. Wash hands before Breaks and at the end of workday.

Exposure controls:

National occupational exposure limits

Benzoyl peroxide: TLV-TWA=5 mg/m³/A4/ACGIH(1997)

Butyl benzoyl phthalate: TLV-TWA=5 mg/m³/A4/ACGIH(1997)

Material Safety Data Sheet



PAGE: 3 of 5

DATE: 2009-10-12

Identification of the preparation: MARKSPIA JOINT ADHESIVE KIT – COMPONENT B

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	Form:	liquid
	Color:	light yellow
Odour:		slight
PH: (2) (at g/l H2O)		not applicable
Decomposition temperature		103(2)
Flash point:		above 100(2) closed up
Autoignition temperature		no data available (2)
Vapour pressure: (147(2))		1.3hps
Relative density: (2)		from 1.03kg/l to 1.07kg/l
Solubility:		
Water Solubility(2)		Immiscible g/l
Viscosity:(2)		no data available mpa.s
Explosion limits:		-lower no data available vol. % -upper no data available vol. %

10. STABILITY AND REACTIVITY:

Conditions to avoid : Decomposition starting from 103(2): Benzoyl peroxide 100%

Materials to avoid: Reacts violently in contact with acids, amines, driers, polymerization Accelerators and easily oxidized materials.

Hazardous decomposition products: benzoic acid, biphenyls, benzeno

11. TOXICOLOGICAL INFORMATION

Repeated and prolonged exposure to solvents may cause brain and nervous system damage.

Acute toxicity: Benzoyl Peroxide : LD50/oral/rac = 7710 mg/kg, RTECS, 19455

Butyl benzoyl phthalate : LD50/oral/rac = 8000 mg/kg, RTECS, 59814

Local effects not applicable

12. ECOLOGICAL INFORMATION

Ecotoxicity effects no data available

Material Safety Data Sheet



PAGE: 4 of 5

DATE: 2009-10-12

Identification of the preparation: MARKSPIA JOINT ADHESIVE KIT – COMPONENT B

13. DISPOSAL CONSIDERATIONS

Waste from residues / unused products: Do not allow material to contaminate ground water system. Prevent product from entering drains.

Contaminated packaging: Can be incinerated . when in compliance with local regulations.

14. TRANSPORT INFORMATION

UN-NO: 3269

ADR/RID

Class: 3

Item: 5(C)

ADR/RID=Labels: 3

TREM-CARD: 30G80

HI/UN NO: :

Proper shipping name: Adhesives

ICAO

UN/ID NO : 1133

Class: 3

Sub risks:

Packing group: III

ICAO-Labels: Flammable liquid

Proper shipping name: Adhesives

IMO

Class: 3.2

IMDG Page: 3174

Sub risks:

Packing group: III

IMO-Labels: Flammable liquid

Pms: 3 -05

MPAG: 330

Proper shipping name: Adhesives

15. REGULATORY INFORMATION

The product is classified and labeled in accordance with EC-Directive 88/379

Symbol(s): Xi -irritant

Contents: Benzoyl peroxide

R-phrase: R43-May cause sensitization by skin contact

S14-Keep away from easily oxidisable materials

S16-Keep away from source of ignition – No smoking

S24/25-Avoid contact with skin and eyes

S37-Wear suitable gloves

16. OTHER INFORMATION

When used in a mixture, read the labels and safety data sheet of all components,

END USE: adhesives.

Material Safety Data Sheet



PAGE: 5 of 5

DATE: 2009-10-12

Identification of the preparation: MARKSPIA JOINT ADHESIVE KIT – COMPONENT B

Do not use in medical applications involving permanent implantation in the human body.

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.

