SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Trade name : HIMACS JOINT ADHESIVE

1.2. Relevant identified uses of the substance or mixture and uses advised against

Identified use : Adhesive

1.3. Details of the supplier of the safety data sheet

Manufacturer:

Marktec, Inc.
1311 Needham Drive
Dalton, GA 30720
Website: www.marktecusa.com
Tel: 706-529-4818

Supplier:

LX Hausys America, Inc.
900 Circle 75 Parkway, Suite 1500
Atlanta, GA 30339
Tel: 866-544-4622

1.4. Emergency telephone number

Emergency number : 866-544-4622

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification

Part A

Flam. Liq. 3	H226
Skin Irrit. 2	H315
Skin Sens. 1	H317
STOT SE 3	H335

Part B

Skin Sens. 1 H317

Full text of H-statements: see section 16

2.2. Label elements

Labelling

Part A

Hazard pictograms :

GHS02 GHS07

Signal word : Warning

Hazard statements : H226 - Flammable liquid and vapour
H315 - Causes skin irritation
H317 - May cause an allergic skin reaction
H335 - May cause respiratory irritation

Precautionary statements : P210 - Keep away from heat/sparks/open flames/hot surfaces. - No smoking
P233 - Keep container tightly closed
P240 - Ground/bond container and receiving equipment
P241 - Use explosion-proof electrical/ventilating/lighting/… equipment
P242 - Use only non-sparking tools

P243 - Take precautionary measures against static discharge
P261 - Avoid breathing dust/fume/gas/mist/vapours/spray
P264 - Wash hands thoroughly after handling

P271 - Use only outdoors or in a well-ventilated area
P272 - Contaminated work clothing must not be allowed out of the workplace
P280 - Wear protective gloves/protective clothing/eye protection/face protection
P302+P352 - If on skin: Wash with plenty of water
P303+P361+P353 - If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower
P304+P340 - If inhaled: Remove person to fresh air and keep comfortable for breathing
P312 - Call a poison center/doctor/… if you feel unwell
P321 - Specific treatment (see first aid measures on this label)
P332+P313 - If skin irritation occurs: Get medical advice/attention
P333+P313 - If skin irritation or rash occurs: Get medical advice/attention
P362 - Take off contaminated clothing and wash before reuse
P362+P364 - Take off contaminated clothing and wash it before reuse
P370+P378 - In case of fire: Use Foam, Dry Chemical, Water to extinguish
P403+P233 - Store in a well-ventilated place. Keep container tightly closed
P403+P235 - Store in a well-ventilated place. Keep cool
P405 - Store locked up
P501 - Dispose of contents/container to hazardous or special waste collection point, in accordance with local, regional, national and/or international regulation.

Part B

GHS-US labelling

Hazard pictograms :

GHS07

Signal word : Warning

Hazard statements : H317 - May cause an allergic skin reaction

Precautionary statements : P261 - Avoid breathing dust/fume/gas/mist/vapours/spray
P272 - Contaminated work clothing must not be allowed out of the workplace
P280 - Wear protective gloves/protective clothing/eye protection/face protection
P302+P352 - If on skin: Wash with plenty of water
P321 - Specific treatment (see first aid measures on this label)
P333+P313 - If skin irritation or rash occurs: Get medical advice/attention
P362+P364 - Take off contaminated clothing and wash it before reuse
P501 - Dispose of contents/container to hazardous or special waste collection point, in accordance with local, regional, national and/or international regulation.

2.3. Other hazards

Hazards not otherwise classified:

Part A

Inhalation exposure may result in nausea, drowsiness, dizziness, headache and other central nervous system effects. Vapors can irritate eyes and nasal passages. Direct contact with eyes may result in irritation with inflammation of the cornea or conjunctiva. Prolonged or repeated contact with skin may result in skin irritation, contact dermatitis, rash, itching and swelling. The product is moderately toxic by ingestion.

Part B

Inhalation may cause irritation of the nose, throat and lungs. Skin or eye contact may cause irritation or damage. Prolonged contact may cause dermatitis. The product is moderately toxic by ingestion and may cause nausea, vomiting and diarrhea.

2.4. Unknown acute toxicity

Not applicable

SECTION 3: Composition/information on ingredients

3.1. Substance

Not applicable

3.2. Mixture

Name	Product identifier	%
Part A		
Methyl methacrylate	(CAS No)80-62-6	65
Methacrylic acid	(CAS No)79-41-4	1 - 5
Part B		
Benzoyl peroxide	(CAS No)94-36-0	< 3
Mixture of benzoate Ester	Not applicable	> 90
Diethylene glycol dibenzoate (containment)	(CAS No)120-55-8	-
Propanol, oxybis-, dibenzoate (containment)	(CAS No)27138-31-4	-
Ethanol, 2,2'-[1,2-ethanediylbis(oxy)]bis-, dibenzoate (containment)	(CAS No)120-56-9	-

SECTION 4: First aid measures

4.1. Description of first aid measures

First-aid measures general : Never give anything by mouth to an unconscious person. If you feel unwell, seek medical advice.

First-aid measures after inhalation : Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTER or doctor/physician if you feel unwell.

First-aid measures after skin contact : Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower. Wash with plenty of soap and water. Wash contaminated clothing before reuse. If skin irritation occurs: Get medical advice/attention.

First-aid measures after eye contact : In case of contact with eyes, rinse immediately with plenty of flowing water for 15 to 20 minutes holding eyelids apart. Subsequently consult an ophthalmologist. Obtain medical attention if pain, blinking or redness persists.

First-aid measures after ingestion : Rinse mouth. Do NOT induce vomiting. Obtain emergency medical attention.

4.2. Most important symptoms and effects, both acute and delayed

Symptoms/injuries after inhalation : May cause an allergic skin reaction. May cause respiratory irritation.

Symptoms/injuries after skin contact : Causes skin irritation.

4.3. Indication of any immediate medical attention and special treatment needed

No additional information available

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media : Foam. Dry powder. Carbon dioxide. Water spray. Foam.

Unsuitable extinguishing media : Do not use a heavy water stream.

5.2. Special hazards arising from the substance or mixture

Fire hazard : **Part A**: Flammable liquid and vapour. Vapor forms explosive mixture with air. Vapors or gas are heavier than air may travel considerable distance to an ignition source and flash back.

Part B: Peroxides and decomposition products are flammable and can ignite with explosive force if confined.

Explosion hazard : Part B: Peroxides and decomposition products are flammable and can ignite with explosive force if confined.

5.3. Advice for firefighters

Firefighting instructions : Use water spray or fog for cooling exposed containers. Exercise caution when fighting any chemical fire. Prevent fire-fighting water from entering environment.

Protective equipment for firefighters : Do not enter fire area without proper protective equipment, including respiratory protection.

SECTION 6: Accidental release measures :

6.1. Personal precautions, protective equipment and emergency procedures

General measures : Remove ignition sources. Use special care to avoid static electric charges. No open flames. No smoking.

6.1.1. For non-emergency personnel

Emergency procedures : Evacuate unnecessary personnel.

6.1.2. For emergency responders

Protective equipment : Equip cleanup crew with proper protection.For further information refer to section 8: "Exposure controls/personal protection".

Emergency procedures : Ventilate area. Stop leak, if possible without risk.

6.2. Environmental precautions

Prevent entry to sewers, public waters and confined area.

6.3. Methods and material for containment and cleaning up

Methods for cleaning up : Soak up spills with inert solids, such as clay or diatomaceous earth as soon as possible. Collect spillage. Store away from other materials.

6.4. Reference to other sections

See Heading 8. Exposure controls and personal protection.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Additional hazards when processed : Handle empty containers with care because residual vapours are flammable.

Precautions for safe handling : Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work. Provide good ventilation in process area to prevent formation of vapour. No open flames. No smoking. Take precautionary measures against static discharge. Use only non-sparking tools. Avoid breathing fume/mist/vapours/spray. Use only outdoors or in a well-ventilated area.When not in use, keep containers tightly closed.

Hygiene measures : Wash hands thoroughly after handling. Wash contaminated clothing before reuse.

7.2. Conditions for safe storage, including any incompatibilities

Technical measures : Proper grounding procedures to avoid static electricity should be followed. Ground/bond container and receiving equipment. Use explosion-proof electrical/ventilating/lighting/… equipment.

Storage conditions : Keep only in the original container in a cool, well-ventilated place away from: heat, sparks and flames. Store below 88°F (30°C).

Incompatible materials : Reacts violently in contact with acids, amines, drying agents, polymerization accelerators and oxidized materials.

7.3. Specific end use(s)

No additional information available

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Methyl methacrylate (80-62-6)		
ACGIH	ACGIH TWA (ppm)	50 ppm
ACGIH	ACGIH STEL (ppm)	100 ppm
OSHA	OSHA PEL (TWA) (mg/m³)	410 mg/m³
OSHA	OSHA PEL (TWA) (ppm)	100 ppm

Methacrylic acid (79-41-4)		
ACGIH	ACGIH TWA (ppm)	20 ppm

Dibenzoyl peroxide, benzoyl peroxide (94-36-0)		
ACGIH	ACGIH TWA (mg/m³)	5 mg/m³
ACGIH	Remark (ACGIH)	URT & skin irr
OSHA	OSHA PEL (TWA) (mg/m³)	5 mg/m³

8.2. Exposure controls

Personal protective equipment : Gloves. Safety glasses.

Hand protection : Use solvent-resistant gloves.

Eye protection : Chemical goggles or safety glasses.

Skin and body protection : Wear suitable protective clothing.

Respiratory protection : In case of inappropriate ventilation wear appropriate mask.

Other information : Do not eat, drink or smoke during use.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	: Liquid
Appearance	: **Part A**: Viscous Liquid **Part B**: Oily Liquid
Color	: Colourless
Odor	: Distinctive methacrylate odor
Odor threshold	: No data available
pH	: No data available
Relative evaporation rate (butyl acetate=1)	: No data available
Melting point	: No data available
Freezing point	: No data available
Boiling point	: No data available
Flash point	: **Part A**: 80 °F (26.5 °C) - Pensky-Martin Closed Cup **Part B**: >375 °F (177 °C) - Pensky-Martin Closed Cup **Combined**: 110 °F (43 °C) - Pensky-Martin Closed Cup
Auto-ignition temperature	: No data available
Decomposition temperature	: 218 °F (103 °C)
Flammability (solid, gas)	: No data available
Vapour pressure	: **Part A**: 29 mm-Hg at 68 °F (20 °C) **Part B**: 1 mm-Hg at 298°F (148 °C)
Relative vapour density at 20 °C	: No data available
Relative density	: 1.03 – 1.07 (water=1)
Solubility in water	: **Part A**: 1.6 g /L **Part B**: 0.03 g /L
Log Pow	: No data available
Log Kow	: No data available
Viscosity, kinematic	: No data available
Viscosity, dynamic	: No data available
Explosive properties	: No data available
Oxidising properties	: No data available
Explosive limits	: No data available

9.2. Other information

No additional information available

SECTION 10: Stability and reactivity

10.1. Reactivity

No additional information available

10.2. Chemical stability

Stable at room temperatures and storage conditions.

10.3. Possibility of hazardous reactions

Part B: Will polymerize. Conditions leading to unintentional polymerization include exposure to abnormal temperatures, direct sunlight or oxidizing agents.

10.4. Conditions to avoid

Avoid heat ignition sources, direct sunlight and contact with oxidizers.

10.5. Incompatible materials

Part A : Oxidizing materials, strong acids, bases, alkalis, reducing agents and accelerators.

Part B : Reducing and oxidizing agents. Generates heat when mixed with oxidizers.

10.6. Hazardous decomposition products

Thermal decomposition: Carbon monoxide, carbon dioxide, smoke and toxic fumes.

Part B: Flammable and toxic biphenyl.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity : Not classified

Methyl methacrylate (80-62-6)	
LD50 oral rat	7900 mg/kg
LC50 inhalation rat (ppm)	4632 ppm/4h
ATE US (oral)	7900.000 mg/kg bodyweight
ATE US (gases)	4632.000 ppmv/4h

Methacrylic acid (79-41-4)	
LD50 oral rat	1060 mg/kg
LD50 dermal rabbit	500 - 1000 mg/kg
LC50 inhalation rat (mg/l)	7.1 mg/l/4h
ATE US (oral)	1060.000 mg/kg bodyweight
ATE US (dermal)	500.000 mg/kg bodyweight
ATE US (vapours)	7.100 mg/l/4h
ATE US (dust,mist)	7.100 mg/l/4h

Diethylene glycol dibenzoate (120-55-8)	
LD50 oral rat	2830 mg/kg

Skin corrosion/irritation : **Part A**: Causes skin irritation.
Part B: Not classified

Serious eye damage/irritation : Not classified

Respiratory or skin sensitisation : May cause an allergic skin reaction.

Germ cell mutagenicity : Not classified

Carcinogenicity : Not classified

Methyl methacrylate (80-62-6)	
IARC group	3 - Not classifiable

Reproductive toxicity : Not classified

Specific target organ toxicity (single exposure) : **Part A**: May cause respiratory irritation.
Part B: Not classified

Specific target organ toxicity (repeated exposure) : Not classified

Aspiration hazard : Not classified

SECTION 12: Ecological information

12.1. Toxicity

Methyl methacrylate (80-62-6)	
LC50 fish 1	243 - 275 mg/l (Exposure time: 96 h - Species: Pimephales promelas [flow-through])
EC50 Daphnia 1	69 mg/l (Exposure time: 48 h - Species: Daphnia magna)
LC50 fish 2	125.5 - 190.7 mg/l (Exposure time: 96 h - Species: Pimephales promelas [static])

12.2. Persistence and degradability

Not established.

12.3. Bioaccumulative potential

Not established.

Methyl methacrylate (80-62-6)	
Log Pow	0.7

Methacrylic acid (79-41-4)	
Log Pow	0.93

12.4. Mobility in soil

No additional information available

12.5. Other adverse effects

Effect on ozone layer : No additional information available

Effect on the global warming : No additional information available

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Waste disposal recommendations : Dispose in a safe manner in accordance with local/national regulations. Dispose of contents/container to hazardous or special waste collection point, in accordance with local, regional, national and/or international regulation.

Additional information : Handle empty containers with care because residual vapours are flammable.

Ecology - waste materials : Avoid release to the environment.

SECTION 14: Transport information

In accordance with DOT

Transport document description : UN1133 Adhesives (containing a flammable liquid), 3, III

UN-No.(DOT) : UN1133

Proper Shipping Name (DOT) : Adhesives
containing a flammable liquid

Department of Transportation (DOT) Hazard Classes : 3 - Class 3 - Flammable and combustible liquid 49 CFR 173.120

Hazard labels (DOT) : 3 - Flammable liquid

Packing group (DOT) : III - Minor Danger

DOT Special Provisions (49 CFR 172.102)	:	B1 - If the material has a flash point at or above 38 C (100 F) and below 93 C (200 F), then the bulk packaging requirements of 173.241 of this subchapter are applicable. If the material has a flash point of less than 38 C (100 F), then the bulk packaging requirements of 173.242 of this subchapter are applicable. B52 - Notwithstanding the provisions of 173.24b of this subchapter, non-reclosing pressure relief devices are authorized on DOT 57 portable tanks. IB3 - Authorized IBCs: Metal (31A, 31B and 31N); Rigid plastics (31H1 and 31H2); Composite (31HZ1 and 31HA2, 31HB2, 31HN2, 31HD2 and 31HH2). Additional Requirement: Only liquids with a vapor pressure less than or equal to 110 kPa at 50 C (1.1 bar at 122 F), or 130 kPa at 55 C (1.3 bar at 131 F) are authorized, except for UN2672 (also see Special Provision IP8 in Table 2 for UN2672). T2 - 1.5 178.274(d)(2) Normal..... 178.275(d)(3) TP1 - The maximum degree of filling must not exceed the degree of filling determined by the following: Degree of filling = 97 / (1 + a (tr - tf)) Where: tr is the maximum mean bulk temperature during transport, and tf is the temperature in degrees celsius of the liquid during filling.
DOT Packaging Exceptions (49 CFR 173.xxx)	:	150
DOT Packaging Non Bulk (49 CFR 173.xxx)	:	173
DOT Packaging Bulk (49 CFR 173.xxx)	:	242
DOT Quantity Limitations Passenger aircraft/rail (49 CFR 173.27)	:	60 L
DOT Quantity Limitations Cargo aircraft only (49 CFR 175.75)	:	220 L
DOT Vessel Stowage Location	:	A - The material may be stowed ‘‘on deck’’ or ‘‘under deck’’ on a cargo vessel and on a passenger vessel.

Additional information

Other information : No supplementary information available.

ADR

No additional information available

Transport by sea

UN-No. (IMDG)	:	1133
Proper Shipping Name (IMDG)	:	ADHESIVES
Class (IMDG)	:	3 - Flammable liquids
Packing group (IMDG)	:	III - substances presenting low danger

Air transport

UN-No. (IATA)	:	1133
Proper Shipping Name (IATA)	:	Adhesives
Class (IATA)	:	3 - Flammable Liquids
Packing group (IATA)	:	III - Minor Danger

SECTION 15: Regulatory information

15.1. US Federal regulations

All components of this product are listed, or excluded from listing, on the United States Environmental Protection Agency Toxic Substances Control Act (TSCA) inventory except for:

Dibenzoyl peroxide, benzoyl peroxide	CAS No94-36-0	<3

Chemical(s) subject to the reporting requirements of Section 313 or Title III of the Superfund Amendments and Reauthorization Act (SARA) of 1986 and 40 CFR Part 372.

Methyl methacrylate	CAS No80-62-6	65

Methyl methacrylate (80-62-6)	
Listed on United States SARA Section 313	
SARA Section 313 - Emission Reporting	1.0 %

15.2. International regulations

CANADA

Methyl methacrylate (80-62-6)	
Listed on the Canadian DSL (Domestic Sustances List)	
WHMIS Classification	Class B Division 2 - Flammable Liquid Class D Division 2 Subdivision B - Toxic material causing other toxic effects

Methacrylic acid (79-41-4)	
Listed on the Canadian DSL (Domestic Sustances List)	
WHMIS Classification	Class B Division 3 - Combustible Liquid Class D Division 1 Subdivision B - Toxic material causing immediate and serious toxic effects Class E - Corrosive Material Class F - Dangerously Reactive Material

Diethylene glycol dibenzoate (120-55-8)
Listed on the Canadian DSL (Domestic Sustances List)

Ethanol, 2,2'-[1,2-ethanediylbis(oxy)]bis-, dibenzoate (120-56-9)
Listed on the Canadian DSL (Domestic Sustances List)

Propanol, oxybis-, dibenzoate (27138-31-4)	
Listed on the Canadian DSL (Domestic Sustances List)	
WHMIS Classification	Uncontrolled product according to WHMIS classification criteria

EU-Regulations

Methyl methacrylate (80-62-6)
Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances)

Methacrylic acid (79-41-4)
Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances)

Diethylene glycol dibenzoate (120-55-8)
Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances)

Ethanol, 2,2'-[1,2-ethanediylbis(oxy)]bis-, dibenzoate (120-56-9)
Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances)

Propanol, oxybis-, dibenzoate (27138-31-4)
Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances)

Classification according to Regulation (EC) No. 1272/2008 [CLP]
NO information available

15.2.2. National regulations

Methyl methacrylate (80-62-6)
Listed on the AICS (Australian Inventory of Chemical Substances) Listed on IECSC (Inventory of Existing Chemical Substances Produced or Imported in China) Listed on the Japanese ENCS (Existing & New Chemical Substances) inventory Listed on the Korean ECL (Existing Chemicals List) Listed on NZIoC (New Zealand Inventory of Chemicals) Listed on PICCS (Philippines Inventory of Chemicals and Chemical Substances) Japanese Pollutant Release and Transfer Register Law (PRTR Law) Listed on the Canadian IDL (Ingredient Disclosure List) Listed on INSQ (Mexican national Inventory of Chemical Substances) Listed on Turkish inventory of chemical

Methacrylic acid (79-41-4)
Listed on the AICS (Australian Inventory of Chemical Substances) Listed on IECSC (Inventory of Existing Chemical Substances Produced or Imported in China) Listed on the Japanese ENCS (Existing & New Chemical Substances) inventory Listed on the Korean ECL (Existing Chemicals List) Listed on NZIoC (New Zealand Inventory of Chemicals) Listed on PICCS (Philippines Inventory of Chemicals and Chemical Substances) Japanese Poisonous and Deleterious Substances Control Law Japanese Pollutant Release and Transfer Register Law (PRTR Law) Listed on the Canadian IDL (Ingredient Disclosure List) Listed on INSQ (Mexican national Inventory of Chemical Substances) Listed on Turkish inventory of chemical

Diethylene glycol dibenzoate (120-55-8)
Listed on the AICS (Australian Inventory of Chemical Substances) Listed on IECSC (Inventory of Existing Chemical Substances Produced or Imported in China) Listed on the Japanese ENCS (Existing & New Chemical Substances) inventory Listed on the Korean ECL (Existing Chemicals List) Listed on NZIoC (New Zealand Inventory of Chemicals) Listed on PICCS (Philippines Inventory of Chemicals and Chemical Substances)

Ethanol, 2,2'-[1,2-ethanediylbis(oxy)]bis-, dibenzoate (120-56-9)
Listed on the AICS (Australian Inventory of Chemical Substances) Listed on IECSC (Inventory of Existing Chemical Substances Produced or Imported in China) Listed on the Japanese ENCS (Existing & New Chemical Substances) inventory Listed on NZIoC (New Zealand Inventory of Chemicals) Listed on PICCS (Philippines Inventory of Chemicals and Chemical Substances) Listed on Turkish inventory of chemical

Propanol, oxybis-, dibenzoate (27138-31-4)
Listed on the AICS (Australian Inventory of Chemical Substances) Listed on IECSC (Inventory of Existing Chemical Substances Produced or Imported in China) Listed on the Japanese ENCS (Existing & New Chemical Substances) inventory Listed on the Korean ECL (Existing Chemicals List) Listed on NZIoC (New Zealand Inventory of Chemicals) Listed on PICCS (Philippines Inventory of Chemicals and Chemical Substances)

15.3. US State regulations

California Proposition 65 - This product does not contain any substances known to the state of California to cause cancer and/or reproductive harm

SECTION 16: Other information

Other information : None.

Full text of H-statements:

Flam. Liq. 3	Flammable liquids, Category 3
Skin Irrit. 2	Skin corrosion/irritation Category 2
Skin Sens. 1	Sensitisation — Skin, category 1
STOT SE 3	Specific target organ toxicity (single exposure) Category 3
H226	Flammable liquid and vapour
H315	Causes skin irritation
H317	May cause an allergic skin reaction
H335	May cause respiratory irritation

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product