

Safety Data Sheet

1. PRODUCT AND COMPANY INFORMATION

Product name : MARKSPIA
Company : MARKSTONE CO., LTD.
Address : #698, Gwangyeo-ro, Gonjam-eup, Gwangju-si, Gyeonggi-do, 12720, Republic of Korea
Telephone : + 82 31 761 4587
Fax : + 82 31 762 4588
E-mail : markstone@naver.com
Recommended use of the chemical and restrictions on use
Recommended use : Adhesive for scagliola only (Main agent)
Restrictions on use : It is inedible.



2. HAZARDS IDENTIFICATION

Globally Harmonized System of Classification and Labelling of Chemicals (GHS)

Physical hazard : Flammable Liquids - Category 2

Health hazards : Skin / Eye Irritation - Category 2, Skin sensitization - Category 1

Specific Target Organ Toxicity (single exposure) - Category 3

- Target Organ : respiratory system

Environment hazard : Aquatic Environment - Acute 1, Chronic 1

Label elements including precautionary statements

Symbols



Signal word : Danger

Hazard statements H225 Highly Flammable liquid and vapor
H315 Causes skin irritation
H319 Causes serious eye irritation
H317 May cause an allergic skin reaction
H335 May cause respiratory irritation
H400 Very toxic to aquatic life
H410 Very toxic to aquatic life with long lasting effects

Precautionary statements

- Prevention** 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.
P280 Wear protective gloves/protective clothing/eye protection/face protection.
P261 Avoid breathing dust/fume/gas/mist/vapours/spray.
P271 Use only outdoors or in a well-ventilated area.
P272 Contaminated work clothing should not be allowed out of the workplace.
P264 Wash thoroughly after handling.
P273 Avoid release to the environment.
- Responses** P303+P361+P353 IF ON SKIN (or hair): Remove/Take off Immediately all contaminated clothing. Rinse SKIN with water/shower.
P333+P313 IF SKIN irritation or rash occurs: Get medical advice/attention.
P362+P364 Take off contaminated clothing and wash before reuse.
P305+P351+P338 If in eyes : Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P337+P313 If eye irritation persists : Get medical advice/attention.
P304+P340 IF INHALED: Remove victim to fresh air and Keep at rest in a position comfortable for breathing.
P312 IF exposed: call a POISON CENTER or doctor/physician.
P370+P378 In case of fire: Use Dry chemical/carbon dioxide for extinction.
P391 Collect spillage. Hazardous to the aquatic environment
- Storage** P403+P233 Store in a well-ventilated place. Keep container tightly closed.
P235 Keep cool.
P405 Store locked up.
- Disposal** P501 Dispose of contents/ container to an approved waste disposal plant.

NFPA Rating

Health : 2

Flammability : 3

Reactivity : 0

Water reactivity : 0

3. COMPOSITION/INFORMATION ON INGREDIENTS

Ingredients	CAS No.	EINECS No.	Conc. %
Methyl methacrylate	80-62-6	201-297-1	50 %
PMMA [Polymer]	9011-14-7	618-466-4	34 %

Alumina trihydrate	21645-51-2	244-492-7	13 %
Additives	-	-	3 %

4. FIRST AID MEASURES

In case of eye contact

Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.

In case of skin contact

Remove/Take off Immediately all contaminated clothing.

Wash off with soap and plenty of water.

If inhaled

If breathed in, move person into fresh air.

If not breathing, give artificial respiration.

Consult a physician.

If swallowed

Never give anything by mouth to an unconscious person.

Rinse mouth with water.

Consult a physician.

Other medical attention.

Medical personnel should be aware of the protective measures of the substance.

Potential health effect

May be harmful if swallowed.

5. FIRE-FIGHTING MEASURES

Flammable properties

Flash point : < 20 °C (Rapid equilibrium method)

Suitable extinguishing media

Dry chemical, carbon dioxide

Specific hazards arising from the chemical

No data available

Special protective equipment for fire-fighters

Use water spray to cool unopened containers.

Fire fighters should enter area wearing respiratory protection and protective equipment.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions

Wear protective gloves/protective clothing/eye protection/face protection.

Ensure adequate ventilation.

Remove all sources of ignition.

Avoid inhalation of vapor or dust.

Avoid contact with skin and eyes.

Environmental precautions

Don't dispose the product into drainages.

Methods and materials for containment and cleaning up

Collect with non-combustible absorbent materials.(sand and soil)

7. HANDLING AND STORAGE

Precautions for safe handling

Wear protective gloves/protective clothing/eye protection/face protection.

Do not spray on an open flame or other ignition source.

Provide forced air ventilation in tanks and confined spaces.

Avoid inhalation of vapor or dust.

Avoid contact with skin and eyes.

Use explosion-proof equipment.

Keep away from sources of ignition. – No smoking –

Take measures to prevent the build up of electrostatic charge.

Conditions for safe storage

Keep container tightly closed.

Keep in a dry and well-ventilated place. Keep cool.

Avoid direct sunlight, heat sources, and strong oxidizing agents.

8. EXPOSURE CONTROL/PERSONAL PROTECTION

Components with workplace control parameter

KOSHA :

Chemical Name	TWA	STEL
Methyl methacrylate	50 ppm	100 ppm

ACGIH :

Chemical Name	TLV	STEL
Methyl methacrylate	50 ppm	100 ppm
Alumina trihydrate	1 mg/m ³	–

Appropriate engineering controls : Ventilation, Emergency shower

Personal protective equipment

Respiratory protection : Vapor mask

Eye protection : Protective goggles

Hand protection : Chemical resistant gloves

Skin and body protection : Working clothes

9. PHYSICAL AND CHEMICAL PROPERTIES

State : Liquid at 20 °C ~ 40 °C

Flash point : < 20 °C (Rapid equilibrium method)

Autoignition temperature : No spontaneous combustion under 200 °C

pH : 6.5 ~ 7.5 at 20 °C * Sample : H₂O = 1 : 5 (V/V)

Relative density : 1.1 at 20 °C

Water solubility : Water Insoluble at 20 °C

Boiling point (Initial) : > 98 °C

Viscosity : > 1,000 mPa · s (cP) at 20 °C

Explosive properties : No data available

Vapour pressure : No data available

Partition coefficient (n-octanol/water) : No data available

Evaporation rate : No data available

Melting range : No data available

Decomposition temperature : No data available

Lower explosion limit / Upper explosion limit : No data available

10. STABILITY AND REACTIVITY

Chemical stability

Stable under recommended storage conditions.

Conditions to avoid

Direct sunlight, heat, flames and sparks.

Vapors may form explosive mixture with air.

Materials to avoid

Strong oxidizing agents

Hazardous decomposition products

Carbon oxides

11. TOXICOLOGICAL INFORMATION

Acute toxicity

Oral	rat	LD50 : > 2,000 mg/kg	※ from US NLM / ECHA
Skin	rabbit	LD50 : > 2,000 mg/kg	
Inhalation	rat	LC50 (mist, 4h) : No data available	

Skin irritation : Irritating (Methyl methacrylate) ※ from US NLM / ECHA

Eye irritation : Irritating (Methyl methacrylate) ※ from US NLM / ECHA

Respiratory sensitization : No data available

Skin sensitization ※ from US NLM / ECHA

May cause an allergic skin reaction (Methyl methacrylate)

Germ cell mutagenicity : No data available

Carcinogenicity : Not classifiable ※ from ECHA

Reproductive toxicity : No data available

Specific target organ toxicity – single exposure (GHS) ※ from US NLM / ECHA

May cause respiratory irritation. (Methyl methacrylate)

Specific target organ toxicity – repeated exposure (GHS) : No data available

Aspiration hazard : No data available

12. ECOLOGICAL INFORMATION

Toxicity

Fish	LC50 : > 100 mg/L, 96 h	※ from US NLM / ECHA
Crustacean	LC50 : > 20 mg/L, 48 h	
Algae	EC50 : > 0.3 mg/L, 72 h	

Persistence and degradability : No data available

Bioaccumulative potential : No data available

Mobility in soil : No data available

Other adverse effect : No data available

13. DISPOSAL CONSIDERATIONS

Disposal consideration

Observe all environmental regulations.

Disposal precaution

Avoid disposing to the environment.

14. TRANSPORT INFORMATION

UN TDG

UN No. : 1133 Class : 3 Packing Group : II
Proper Shipping Name : ADHESIVES containing flammable liquid

IATA

UN No. : 1133 Class : 3 Packing Group : II
Proper Shipping Name : Adhesives containing flammable liquid

IMDG

UN No. : 1133 Class : 3 Packing Group : II
Proper Shipping Name : ADHESIVES containing flammable liquid

Marine pollution : Yes

Special precaution

Fire EmS Guide : F-E
Spillage EmS Guide : S-D

15. REGULATORY INFORMATION

Korea Industrial Safety and Health Act :

GHS : Flammable Liquids - Category 2, Skin / Eye Irritation - Category 2
Skin sensitization - Category 1
Specific Target Organ Toxicity (single exposure) - Category 3
Aquatic Environment - Acute 1, Chronic 1
Material(s) applied by workplace exposure limits : Methyl methacrylate

Korea Hazardous Materials Safety Control Act :

4th group (Flammable Liquids) 1st class petroleums, Water Insoluble

Korea Chemicals Control Act : Not toxic chemical

Korea Waste Control Act : Designated waste

Korea Persistent Organic Pollutants Control Act : Not applicable

US OSHA Hazards (GHS) : Flammable Liquids, Skin / Eye Irritation
Skin sensitization, Specific Target Organ Toxicity
Acute / Chronic Aquatic Environment

16. OTHER INFORMATION

Issued Date : 2018. 09. 12.

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References

- GHS Classification :

Korea MSDS Testing Lab Certificate (Report No. 2018-03-003319), US NLM

- Physical and chemical properties : Korea MSDS Testing Lab Certificate

- Transport information : Korea MSDS Testing Lab Certificate

- Toxic & ecological information : OECD SIDS, ECHA, US NLM, HSDB, IARC, CCRIS, JP NITE

Acronyms and Websites

- ECHA : European chemical agency, <http://echa.europa.eu/>

- US NLM : U.S. National Library of Medicine, <http://chem.sis.nlm.nih.gov/chemidplus/>

- HSDB : US Hazardous Substances Data Bank, <http://toxnet.nlm.nih.gov/>

- CCRIS : US Chemical Carcinogenesis Research Information System, <http://toxnet.nlm.nih.gov/>

- IARC : International Agency for Research on Cancer, <http://monographs.iarc.fr/>

- JP NITE : Japan National Institute of Technology and Evaluation, <http://www.safe.nite.go.jp/>

※ Hazards Testing and Classification

Korea MSDS Testing Laboratory

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This SDS' composition/information on ingredient(s) and recommended use are provided by the mentioned company in this SDS' section 1.

This SDS is composed in line with Korea Occupational Safety and Health Act (KOSHA) Article 41, to protect the health of the employees, and for documentation.

This SDS is composed with reference to criteria provided by KOSHA.

- End -

HYUNDAI L&C CORPORATION

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