



Material Safety Data Sheet (MSDS)

STARON ADHESIVE (Component B)

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Version:

1. PRODUCT AND COMPANY IDENTIFICATION

1.1 Product Name

- Staron adhesive (component B)

1.2 Product use

- Application : Seam adhesive for staron solid surface
 - uses advised against : None known

1.3 Detail of the supplier of the safety data sheet

○ Supplier

- Name of Supplier : LOTTE CHEMICAL CORP.
 - Address : 56, Gosan-ro, Uiwang-si, Gyeonggi-do, Republic of Korea
 - Department : Technology Team
 - Telephone : +82-31-596-3861
 - Emergency telephone : +82-31-596-3861
 - FAX No. : +82-31-596-3882

2. HAZARD IDENTIFICATION

2.1 Classification of the substance or mixture

○ Physical hazard

- Organic peroxide TYPE G

○ Health hazard

- Acute toxicity (Oral, Skin, Inhalation) – Category 5

○ Environmental hazard

- Hazardous to the aquatic environment, acute hazard - Category 2

2.2 Label elements

- Symbol

No symbol

- Signal word

Warning

- Hazard statement

H303+H313+H333 May be harmful if swallowed, in contact with skin, or if inhaled.

H401 Toxic to aquatic life.

- Precautionary statement

Prevention precautionary statements:

P273 Avoid release to the environment.

Response precautionary statements:

P312 Call a POISON CENTER or doctor/physician if you feel unwell.

Storage precautionary statements:

Not applicable

Disposal precautionary statements:

P501 Dispose of contents/container to ...

2.3. Hazards not included in GHS classification

National Fire Protection Association-NFPA Rating (USA)

Health: 1, Flammability: 1, Reactivity: 1

0=Insignificant 1=Slight 2=Moderate 3=High 4=Extreme

3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical	Usual Name	CAS No.	Concentration range(%)
Benzoyl Peroxide	BPO	94-36-0	2~6
Dipropylene glycol dibenzoate	DPGDB	27138-31-4	85~99
Silicon Dioxide	Silica	7631-86-9	0~10

4. FIRST AID MEASURES

4.1 Eye Contact

Rinse thoroughly with plenty of flowing water for over 20 minutes.

Keep eye wide open while rinsing.

Remove contact lenses, if present and easy to do. Continue rinsing.

If eye irritation persists, get medical advice/attention.

4.2 Skin Contact

Remove/take off immediately all contaminated clothing.

Rinse skin with water/shower or wash with plenty of soap and water.

If skin irritation or rash occurs, seek medical advice/attention.

Wash contaminated clothing before reuse.

4.3 Inhalation

If breathing is difficult, remove to fresh air and keep at rest in a position comfortable for breathing.

If experiencing respiratory symptoms or feel unwell, call a POISON CENTER or doctor/physician.

4.4 Ingestion

Not a likely route of exposure.

Do not induce vomiting without medical advice.

There may be irritation to the gastro-intestinal tract with nausea and vomiting.

4.5 Most important symptoms and effects, both acute and delayed

May cause allergy or asthma symptoms or breathing difficulties if inhaled.

May cause an allergic skin reaction.

4.6 Indication of any immediate medical attention and special treatment needed

Skin contact may aggravate an existing dermatitis condition.

Based on the individual reactions of the patient, the physician's judgment should be used to control symptoms and clinical condition.

5. FIRE FIGHTING MEASURES

5.1 Extinguishing Media

Foam, powder, carbon dioxide [ICSC].

Do not use straight streams of water.

Do not use halogenated extinguishing agents.

Water spray may be used to keep fire exposed containers cool.

5.2 Special hazards arising from the substance or mixture

Sealed containers may rupture when heated.

Sensitive to static discharge.

During a fire, irritating and highly toxic gases may be generated by thermal decomposition or combustion.

5.3 Advice for fire-fighters

In case of fire, wear a full face positive-pressure self contained breathing apparatus and protective suit. Keep containers cool with water spray.

6. ACCIDENTAL RELEASE MEASURES

6.1. Personal precautions, protective equipment and emergency procedures

Eliminate all ignition sources.

Restrict access to area as appropriate until clean-up operations are complete.

Use personal protective equipment recommended in Section 8 (Exposure Controls/Personal Protection).

Stop or reduce any leaks if it is safe to do so.

Ventilate spill area if possible.

Ensure clean-up is conducted by trained personnel only.

Do not touch spilled material.

Have emergency equipment (for fires, spills, leaks, etc.) readily available.

Notify appropriate government, occupational health and safety and environmental authorities.

6.2. Environmental precautions

Prevent material from entering sewers or waterways.

Notify appropriate government, occupational health and safety and environmental authorities.

6.3. Methods and material for containment and cleaning up

Small spills

Soak up spill with absorbent material (sand or other non combustible adsorbent material).

Place residues in a suitable, covered, properly labeled container.

Wash affected area.

Large spills

Contain liquid using absorbent material, by digging trenches or by diking.

Reclaim into recovery or salvage drums or tank truck for proper disposal.

Clean contaminated surfaces with water or aqueous cleaning agents.

Dispose of material in compliance with regulations indicated in Section 13 (Disposal Considerations).

7. HANDLING AND STORAGE

7.1. Precautions for safe handling

Do not get in eyes, on skin, on clothing.

Do not take internally.

Use with adequate ventilation.

Do not breathe vapors/gases/dust.

In case of inadequate ventilation wear respiratory protection.

Keep the containers closed when not in use.

Use non-sparking type tools and equipment, including explosion proof equipment.

Use connections properly earthed to prevent generation of electrostatic charges.

Vapors are heavier than air and may travel considerable distances to a source of ignition and flash back.

Have emergency equipment (for fires, spills, leaks, etc.) readily available.

Ensure all containers are labelled.

Do not use, store, spill or pour near heat, sparks or open flame.

7.2. Conditions for safe storage, including any incompatibilities

Store in suitable labelled containers.

Store the containers tightly closed.

Store away from heat and sources of ignition.

Protect from direct sunlight.

Keep containers placed in cool, well-ventilated areas at temperature not exceeding 30 °C.

Have appropriate fire extinguishers available in and near the storage area.

Store separately from incompatibles.

Connections must be grounded to avoid electrical charges.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1. Occupational exposure limits of methyl methacrylate

No data available

8.2 Exposure control - Appropriate engineering controls

General ventilation is recommended. Use local exhaust ventilation if necessary to control airborne mist and vapor.

Provide mechanical ventilation of confined spaces.

8.3 Individual protection measures, such as personal protective equipment

General advice

The use and choice of personal protection equipment is related to the hazard of the product, the workplace and the way the product is handled.

In general, we recommend as a minimum precaution that safety glasses with side-shields and work clothes protecting arms, legs and body be used.

In addition any person visiting an area where this product is handled should at least wear safety glasses with side-shields.

Respiratory protection

Where concentrations in air may exceed the limits given in this section, the use of a half face filter mask or air supplied breathing apparatus is recommended. If significant mists, vapors or aerosols are generated an approved respirator is recommended. A suitable filter material depends on the amount and type of chemicals being handled.

Eye protection

When handling this product, the use of splash chemical goggles is recommended. Keep an eye wash fountain available.

Hand protection

Polyethylene gloves give the best protection against MMA diffusion. Replace gloves regularly.

Skin protection

When handling this product, the use of a chemical resistant suit is recommended. Keep a safety shower available.

9. Physical and chemical properties

9.1 Appearance	
- Physical state	Liquid
- Form	Paste
- Color	Colorless
9.2 Odor	Ester
9.3 Odor Threshold	No data available
9.4 pH	No data available
9.5 Boiling /Freezing point	No data available
9.6 Boiling point/boiling range	340 °C
9.7 Flash point	224.4 °C (Cleveland open cap)
9.8 Evaporation rate	No data available
9.9 Flammability (solid, gas)	No data available
9.10 Upper/lower flammability or explosive limits	No data available
9.11 Vapour pressure	0.00005 mmHg at 69 °C
9.12 Water Solubility	< 0.01%
9.13 Vapour density	9.38
9.14 Relative density	1.17 ~ 1.20 at 25 °C
9.15 Partition coefficient	No data available
9.16 Autoignition Temperature	No data available
9.17 Decomposition	No data available
9.18 Viscosity	300 cps at 25 °C

9.18 Molecular Weight

No data available

10. STABILITY AND REACTIVITY**10.1 Chemical stability**

Benzoyl peroxide is chemically unstable and should only be handled under specified conditions.
But this product is stable because of liquid mixtures with diluents having a boiling point of 340 °C

10.2 Possibility of hazardous reactions

Hazardous polymerization does not occur.

10.3 Conditions to avoid

Incompatibles, heat, flame and ignition sources.

10.4 Incompatible materials

Strong oxidizing agents, reducing agents, amines, strong acids, strong bases.

10.5 Hazardous decomposition products

Carbon dioxide, Carbon monoxide, Benzoic acid, Benzene, Phenyl benzoate, Diphenyl.

11. TOXICOLOGICAL INFORMATION**11.1 Information on likely routes of exposure**

Inhalation: None known

Ingestion: None known

Skin contact: None known

Eye contact: None known

11.2. Information on toxicological effects**○ Acute toxicity****Oral:**

diethylene glycol dibenzoate: LD50 (Rat): 4190 mg/kg

dipropylene glycol dibenzoate: LD50 (Rat): 3914 mg/kg

benzoyl peroxide: LD50 (Rat): >5000 mg/kg

Dermal:

diethylene glycol dibenzoate: LD50 (Rat): > 2000 mg/kg

dipropylene glycol dibenzoate: LD50 (Rat): > 2000 mg/kg

benzoyl peroxide: No data available.

Inhalation:

diethylene glycol dibenzoate: No data available.

dipropylene glycol dibenzoate: LC50 (Rat, 4 h): > 200 mg/l

benzoyl peroxide: LC50 (Rat, 4h): >24.3 mg/l

○ Repeated dose toxicity

diethylene glycol dibenzoate: NOEL (Rat, in feed, 90 d): 1000 mg/kg

dipropylene glycol dibenzoate: NOAEL (Rat, in feed, 90 d): 1000 mg/kg

benzoyl peroxide: Chronic dietary administration to rat/ affected organ(s):test/ signs: atrophy

○ Skin corrosion/irritation

diethylene glycol dibenzoate (Rabbit, 4 h): None

dipropylene glycol dibenzoate (Rabbit, 4 h): None

benzoyl peroxide (Rabbit, 4 h): None

○ Serious eye damage/eye irritation

diethylene glycol dibenzoate (Rabbit): Slight

dipropylene glycol dibenzoate (Rabbit): Slight

benzoyl peroxide (Rabbit): Severely irritation

○ Respiratory or skin sensitization

diethylene glycol dibenzoate Skin Sensitization(Guinea Pig): Non-sensitizing

dipropylene glycol dibenzoate Skin Sensitization(Guinea Pig): Non-sensitizing

benzoyl peroxide Skin Sensitization(Guinea Pig): Skin allergy was observed

○ Carcinogenicity

diethylene glycol dibenzoate: No data available.

dipropylene glycol dibenzoate: No data available.

benzoyl peroxide : Classified by the International Agency for Research on Cancer as: Group 3

○ Germ cell mutagenicity

In vitro:

diethylene glycol dibenzoate : Mutagenicity - Mammalian, : negative +/- activation
Mutagenicity - Bacterial, : negative +/- activation
Chromosomal aberration, : negative +/- activation

dipropylene glycol dibenzoate: Mutagenicity - Mammalian, : negative +/- activation
Chromosomal aberration, : negative +/- activation
Mutagenicity - Bacterial, : negative +/- activation

benzoyl peroxide : Mutagenicity - Bacterial, : negative +/- activation

○ Reproductive toxicity

diethylene glycol dibenzoate: No data available.

dipropylene glycol dibenzoate: No data available.

benzoyl peroxide: Repeated administration. Oral (rat)/ No toxicity to reproduction

○ Specific target organ toxicity - single exposure: No data available.

○ Specific target organ toxicity - repeated exposure: No data available.

○ Aspiration hazard: No data available.

○ Other adverse effects: No data available.

12. ECOLOGICAL INFORMATION

12.1. Ecotoxicity

Acute toxicity

○ Fish

diethylene glycol dibenzoate: LL50 (Fish, 96 h): 2.9 mg/l

dipropylene glycol dibenzoate: LC50 (Fish, 96 h): 3.7 mg/l

benzoyl peroxide: LC50 (Oncorhynchus mykiss, 96 h): 0.0602 mg/l
LC50 (Oryzias latipes, 96 h): 0.24 mg/l

○ Aquatic invertebrates

diethylene glycol dibenzoate: LL50 (daphnia, 48 h): 6.7 mg/l

dipropylene glycol dibenzoate: LL50 (daphnia, 48 h): 19.3 mg/l

benzoyl peroxide: EC50 (daphnia, 48 h): 0.07 mg/l

○ Toxicity to Aquatic Plant

diethylene glycol dibenzoate: No data available

dipropylene glycol dibenzoate: No data available

benzoyl peroxide: EC50 (Algae, 72 h): 0.07 mg/l (biomass), 0.44 mg/l (growth rate)

Chronic toxicity

○ Fish: : No data available

○ Aquatic invertebrates: No data available

○ Toxicity to Aquatic Plants: No data available

diethylene glycol dibenzoate: LL50 (Alga, 72 h): 10.94 mg/l

dipropylene glycol dibenzoate: LL50 (Alga, 72 h): 4.9 mg/l

benzoyl peroxide : No data available

12.2 Persistence/degradability

Persistence

diethylene glycol dibenzoate: log kow 3.04

dipropylene glycol dibenzoate: log kow 3.88

benzoyl peroxide: log kow 3.46

Biodegradation

diethylene glycol dibenzoate 93 % (28d, Ready Biodegradability: CO2 Evolution Test) Readily biodegradable

dipropylene glycol dibenzoate 87 % (28d, Ready Biodegradability: CO2 Evolution Test) Readily biodegradable

benzoyl peroxide Readily biodegradable. (aerobic, 21d) 83%

Biological Oxygen Demand

diethylene glycol dibenzoate: No data available.

dipropylene glycol dibenzoate: BOD-5: 650 mg/g

Chemical Oxygen Demand

diethylene glycol dibenzoate: No data available.

dipropylene glycol dibenzoate: 2230 mg/g

BOD/COD ratio

diethylene glycol dibenzoate: No data available.

dipropylene glycol dibenzoate: No data available.

12.3 Bioaccumulative potential

diethylene glycol dibenzoate	BCF 120.
dipropylene glycol dibenzoate	BCF 192.5

12.4. Mobility in soil

Known or predicted distribution to environmental compartments

diethylene glycol dibenzoate:	3.2 (Measured)
dipropylene glycol dibenzoate:	3.6 (Measured)

12.5 Other adverse effects: No data available

13. DISPOSAL CONSIDERATIONS

13.1 Disposal methods

Must be disposed of as a special waste in accordance with regulations for special waste.

Small quantities may be incinerated under controlled conditions in incinerators.

Hazardous wastes must be transported by a licensed hazardous waste transporter and disposed of or treated in a properly licensed hazardous waste treatment, storage, disposal or recycling facility.

Consult local, state, and federal regulations for specific requirements.

13.2 Precautions (On disposal of contaminated containers and packages)

Do not dispose of wastes in local sewer or with normal garbage. Combustion products are carbon monoxide, carbon dioxide and water.

14. TRANSPORTATION INFORMATION

14.1 UN number : 1133

14.2 UN proper shipping name

- ADHESIVES containing flammable liquid

14.3 Transport hazard class(es): 3

14.4 UN Packing group: II

14.5. Environmental hazards

- Not regulated.

14.6 Special precautions for user

Fire emergency: F-E

Release emergency: S-D

15. REGULATORY INFORMATION

15.1 Safety, health and environmental regulations for the methyl methacrylate

EUROPE

WHMIS (Canada) Status : noncontrolled

US EPCRA (SARA Title III) Section 313 - Toxic Chemical List: None

OSHA: nonhazardous

15.2. International chemical control laws

TSCA (US Toxic Substances Control Act):

All components of this product are listed on the TSCA inventory. Any impurities present in this product are exempt from listing.

DSL (Canadian Domestic Substances List) and CEPA (Canadian Environmental Protection Act):

All components of this product are listed on the DSL. Any impurities present in this product are exempt from listing.

AICS / NICNAS (Australian Inventory of Chemical Substances and National Industrial Chemicals Notification and Assessment Scheme):

All components of this product are listed on AICS or otherwise comply with NICNAS.

ECL (Korean Toxic Substances Control Act):

All components of this product are listed on the Korean inventory or otherwise comply with the Korean Toxic Substances Control Act.

Inventory of Existing Chemical Substances in China:

All components of this product are listed on the Inventory of Existing Chemical Substances in China (IECSC).

16. OTHER INFORMATION

16.1 Sources of Data

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

WHO/IPCS : International Chemical Safety Cards (ICSC)

EU European Chemicals Bureau (ECB): International Uniform Chemical Information Database (IUCLID)

Registry of Toxic Effects of Chemical Substances (NIOSH)

Registry of Toxic Effects of Chemical Substances (RTECS)

Joint Assessment of Commodity Chemicals, Methyl methacrylate No. 30, European Centre for Ecotoxicology and Toxicology of Chemicals, Brussels

European Union Risk Assessment Report (European Commission) (EU-RAR).

16.2 Creation Date

- 2012-01-20

16.3 Number of Revision and Latest Revisioni Date

-6th : 2021.09.29

16.4 Others

This information is provided without warranty. The information is believed to be correct.

This information should be used to make an independent determination of safeguard workers and the environment.