LOTTE
ADVANCED MATERIALS

Material Safety Data Sheet (MSDS)

STARON Solid Surface

Date of issue: 2010-10-04 **Revision data : 2018-05-11** **Version:**

1. PRODUCT AND COMPANY IDENTIFICATION

1.1 Product Name

- Staron solid surface

1.2 Product use

- Application : Kitchen top, counter top, interior wall, ect.
- uses advised against : Do NOT use with strong acid or base chemicals

1.3 Detail of the supplier of the safety data sheet

○ Manufactrue

- Name of Supplier : LOTTE ADVANCED MATERIALS
- Address : 334-27, Yeosusandan-ro, Yeosu-si, Jeollanam-do, Republic of Korea
- Department : Development Team
- Telephone : +82-61-689-1151
- Emergency telephone : +82-61-689-1151
- FAX No. : +82-61-689-1759

○ **Supplier**

- Name of Supplier : LOTTE ADVANCED MATERIALS
- Address : 56, Gosan-ro, Uiwang-si, Gyeonggi-do, Republic of Korea
- Department : Technical Solution 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

- Not Classified
- The hazards of this product are associated with its fabrication. Such as sawing, routing and sanding can generate dust.
- Exposure to high concentration of dust or inhalation may cause respiratory irritation and sneeze. This information is according to exposure limits of PMMA (Poly methyl matacrylate).

2.2 Label elements

- Pictogram

none

- Signal word

none

- Hazard statement

none

- Precautionary statement

Prevention: Not Applicable, Respnse: Not Applicable, Storage: Not Applicable, Disposal: Not Applicable

- NFPA rating

Health : Not applicable, Flammability : Not applicable, Reactivity : Not applicable

2.3. Other hazards

- At room temperature, it does not have gas emissions. But under high temperature condition, small amount of acryl gas may be emitted. Depending on time and temperature, the gas emission amount will be affected. The acryl gas may cause irritation or allergy on eye, nose, skin and neck. Repeated and high concentrated exposure may cause headache, vomiting and bronchoalveolar inflammation.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical	Usual Name	CAS No.	Concentration range(%)
ACRYLIC POLYMER	PMMA	9011-14-7	40 - 45 %
Aluminum Trihydrate	ATH	21645-51-2	55 - 60 %
Pigment	Pigment	Trade secret	< 1 %
Additives	Additives	Trade secret	< 1 %

4. FIRST AID MEASURES

4.1 Eye Contact

- Rinse thoroughly with plenty of water for over 15 minute and call a doctor immidiately.

4.2 Skin Conatact

- No hazard. Wash with soap and water.

4.3 Inhalation

- If breathing is difficult, remove victim to fresh air and keep at rest in a position comfortable for breathing. Follow instruction of doctor.

4.4 Ingestion

- If vomitting, rinse mouth and follow instruction of doctor.

5. FIRE FIGHTING MEASURES

5,1 Extinguishing Media

- Suitable extinguishing media : Dry chemical, carbon oxide, water spray and foam
- Unsuitable extinguishing media : Not available

5.2 Special hazards arising from the substance or mixture

- Hazardous Product of Combustion: Carbon Oxides (CO, CO2), Various Hydrocarbons.
- Risk of Explosion or Fire: Staron solid surface has fire resistance but it has small risk of fire when it exposure to heat or fire.

5.3 Advice for fire-fighters

-- Protective fire fighting clothing (including fire fighting helmet, coat, pants, boots and glove), Air supplied respirator.

6. ACCIDENTAL RELEASE MEASURES

6.1. Personal precautions, protective equipment and emergency procedures

- Proper personal protective equipment should be utilized when handling this material.

6.2. Environmental precautions

- AIR: Avoid generation of dust and fine dust dispersed in the air

6.3. Methods and material for containment and cleaning up

- Small amount: Brush into dry container or bag.
- Large amount: Avoid generating dust in the air. Cleaning dust using vacuum cleaner and keep it into dry container.

7. HANDLING AND STORAGE

7.1. Precautions for safe handling

- When fabricating such as thermoforming, cutting and sanding, wear a proper protective gears.

7.2. Conditions for safe storage, including any incompatibilities

- Store in 15~23℃ temp. and dry condition inside or warehouse on flat ground.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1. Control parameters

- Occupational Exposure Limits : Not available
- TWA : Not available
- STEL : Not available
- 0.3mg/㎥ OSHA TWA(Inhalable particles): Not available
- 0.1mg/㎥ OSHA TWA(Respirable particles): Not available
- ACGIH : Not available
- Biological exposure limit : Not available

* ACGIH = American Conference of Governmental Industrial Hygienists

8.2 Appropriate engineering controls

- Not available

8.3 Individual protection measures, such as personal protective equipment

○ **Respiratory protection**

- Dust mask when exposure on high concentration of dust

○ **Eye Protection**

- Wear safely glasses

○ **Hand Protection**

- Wear protective gloves

○ **Skin protection**

- protectieve clothing

9. Physical and chemical properties

9.1 Appearance	
- Physical state	Solid (Sheet form)
- Color	Various
9.2 Odor	Minimal
9.3 Odor Threshold	Not applicable
9.4 pH	Not applicable
9.5 Boiling /Freezing point	Not applicable
9.6 Boiling point/boiling range	Not applicable
9.7 Flash point	No data
9.8 Evaporation rate	Not applicable
9.9 Flammability (solid, gas)	Not applicable
9.10 Upper/lower flammability or explosive limits	Not applicable
9.11 Vapour pressure	Not applicable
9.12 Water Solubility	Not soluble in water
9.13 Vapour density	Not applicable
9.14 Relative density	1.6 ~ 1.8
9.15 Partition coefficient	No data
9.16 Autoignition Temperature	No data
9.17 Decomposition	No data
9.18 Viscosity	Not applicable
9.19 Explosive properties	No data

10. STABILITY AND REACTIVITY

10.1 Stability and Possibility of Hazardous Reaction

- Stability : Stable under room temperature and normal pressure
- Possibility of Hazardous Reaction: When cutting by saw or router, friction heat reach up to 300℃ temperature.
  Methyl methacrylate monomer may be released. Dust may be flashed under ignition temp

10.2 Conditions to avoid

- Avoid extreme heat

10.3 Materials to avoid

- Acids, base, solvent, heat, spark, flame

10.4 Hazardous decomposition products

- Carbon oxides, Methyl methacrylate monomer, smog.

11. TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects

○ **(Respratory system)**

- :High concentration may cause difficulty with breathing.

○ **(ingestion)**

- Organic reaction with digestive organs may cause irritation.

○ **(Eye, Skin)**

- Particles may cause irritation.

11.2. Toxicity and irritation

○ **Acute toxicity:**

*** Oral**

- Acute exposure : Organic reaction with digestive organs may cause irritation.
- Chronic overexposure: Not available

*** Dermal**

- Acute exposure : Particles may cause irritation.
- Chronic overexposure: Not available

*** Inhalation**

- Acute exposure : High concentration may cause difficulty with physical breathing.
- Chronic overexposure: Not available

○ **Skin corrosion/irritation**

- Not available

○ **Eye corrosion/irritation**

- Not available

○ **Respiratory sensitization**

- Not available

○ **Skin Sensitization**

- Not available

○ **Carcinogenic**

- Not available

○ **Germ cell mutations**

- Not available

○ **Reproductive toxicity**

- Not available

○ **Specific target organ toxicity(single exposure)**

- Not available

○ **Specific target organ toxicity(repeated exposure)**

- Not available

○ **Aspiration hazard**

- Not available

11.3. TOXICALOGICAL EFFECTS

[PMMA]

○ **TLV-TWA =100ppm =410mg/m3 :ACGIH (1991-2**

○ **LD50/Oral/Rat =7,872mg/kg :RTECS, 47796**

○ **MMA contents may leave on cutting tool blade about 100ppm TLV. Ventilation will dilute the concentration.**

12. ECOLOGICAL INFORMATION

12.1. Ecotoxicity

○ **Fish**

- No data

○ **Invertebrate**

- No data

○ **Algae**

- No data

12.2 Persistence/degradability

- Persistence : No data
- Degradability : No data

12.3 Bioaccumulative potential

- Biodegradablility: No data
- Bioaccumulation: No data

12.4. Mobility in soil

- Not available

12.5 Other adverse effects

- Not available

13. DISPOSAL CONSIDERATIONS

13.1 Waste treatment methods

- All disposal methods must be in compliance with all Federal, State/Provincial and local laws and regulations

13.2 Requore attention

- The user of this product must properly characterize the waste/ container generated from the use of this product in accordance with all applicable federal, state and/or lacal laws and regulations in oerder to determine the proper disposal of the waste in accordance with all applicable federal, state and/ or local laws and regulations
- Dispose of waste in accordance with local regulation

14. TRANSPORTATION INFORMATION

14.1 UN number

- Not applicable

14.2 UN proper shipping name

- Not applicable

14.3 Transport hazard class(es)

- Not applicable

14.4 Packing group

- Not applicable

14.5. Environmental hazards

- Not available

14.6 Special precautions for user related to transport or transportation measures

- Not available

15. REGULATORY INFORMATION

15.1. Occupation safety and health acts

- Not available

15.2. Chemical Safety Assessment

- Not available

15.3. Safety control of dangerous substances Act

- Not available

15.4. Wastes control Act

- Not available

15.5. Foreign legal

○ **Persistent Organic Pollutants Control Act**

- Not available

○ **EU**

*** Confirm classific result : Not classified**

*** Harzard words Not applied**

*** Prevention measure: Not applied**

○ **U.S regulations**

*** OSHA Hazard Communication Standard (29 CFR 1910.119)**

- Not applicable

*** CERCLA 103 (40CFR302.4)**

- Not applicable

*** EPCRA 302 (40CFR355.30)**

- Not applicable

*** EPCRA 304 (40CFR355.40)**

- Not applicable

*** EPCRA 313 (40CFR372.65)**

- Not applicable

○ **Rotterdam convention material**

- Not applicable

○ **Stockholm convention material**

- Not applicable

○ **Montreal Protocol material**

- Not applicable

○ **TSCA (US Toxic Substances Control Act): In compliance with TSCA Inventory requirements for commercial purposes**

16. OTHER INFORMATION

16.1 Sources of Data

16.2 Creation Date

- 2010-10-04

16.3 Number of Revision and Latest Revisioni Date

-6th : 2018.05.11

16.4 Others