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Material Safety Data Sheet

SBS (LG-411)
CAS No. : 9003-55-8

Reg. No.	MSDS - SBS - 029
Rev. Date	2008. 3. 1.
3 rd Rev. Date	2010. 11. 27.
Rev. item	Follows GHS standard
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SECTION 1. IDENTIFICATION

- A. PRODUCT NAME : SBS(Styrene-Butadiene-Styrene)
- B. Recommended Use and Restriction on Use
- General use : reinforcing additive, adhesives, for hot melt
 - Restriction on Use : Not available
- C. Manufacturer/Supplier
- Supplier : LG Chem, Ltd.
 - Address : 70-1 Hwachi-dong, Yeosu-si, Jeollanam-do, 555-280 Korea
 - Division in charge : Specific resin/BPA factory, Team of SBS production
 - Person in Charge :
 - Emergency Phone No. : +82-61-680-1665
 - Fax No. : +82-61-680-6055

SECTION 2. HAZARDS IDENTIFICATION

A. GHS Classification : Not classifiable

B. GHS label elements

<input type="radio"/> Hazard symbols	<input type="radio"/> Signal word	<input type="radio"/> Hazard statement
Not applicable	Not applicable	Not applicable

Precautionary statement : Not applicable

C. Other hazards which do not result in classification

NFPA : health=1, Flammability=1, Reactivity =0


SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	Other Name	CAS Number	Contents(%)
Styrene-butadiene rubber	SBS	9003-55-8	SBS Polymer Content 100%(wt)

* Registration number of Korean Existing Chemicals List (KE No.) : KE-13258

* REACH registration No. BD : 01-2119471988-16 (registration date 2010.10),
SM : 01-2119457861-32 (registration date 2010.10)

SECTION 4. FIRST-AID MESURES

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A. Eye Contact :

- Immediately flush eyes with plenty of water at least 15 to 20 min.
- Get medical advice/attention immediately.

B. Skin Contact:

- Flush skin with plenty of water and soap or mild cleanser at least 15 to 20 min.
- Get medical advice/attention immediately.

C. Inhalation :

- Immediately remove exposed person to fresh air, make warm and keep at rest in a position comfortable for breathing.
- Perform artificial respiration if necessary.
- Call a physician.

D. Ingestion :

- If occur vomiting, lay the patient down as head would be lower than body for suffocation prevention.
- Call a physician.

E. Note to physician :

- There is no specific antidote.
- Treatment may vary with condition of victim and specifics of incident.

SECTION 5. FIRE-FIGHTING MEASURES

A. Suitable (Unsuitable) extinguishing media

- Suitable extinguishing media : Carbon dioxide, Chemical powder, Water spray, foam
- Unsuitable extinguishing media : Strong oxidizing agent, aromatic compound, Chlorinated hydrocarbon
- Use water spray, foam in conflagration.


B. Specific hazards arising from the chemical

- Hazard of fire and explosion :
 - May occur fire if exposed heat or flame.
 - Avoid to heat, spark, flame.

C. Special fire fighting procedures

- Move containers from fire area if this can be done without risk.
- Do not spread the spillage with water spray of high pressure.
- Avoid to inhalation of hazardous gas and mist, stand against the wind.

SECTION 6. ACCIDENTAL RELEASE MEASURES

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A. Personal Precautions, Protective Equipment and Emergency procedures :

- Do not contact with spillage.
- Cut off the spillage if this can be done without risk.
- No entry to unauthorized persons and isolate from dangerous area.
- Ventilate before entering closed room.
- Wear self contained breathing apparatus and protective clothing.

B. Environmental Precautions:

- Dike to avoid release to waterways to avoid environmental contamination.
- If large spills, advise emergency services.

C. Methods and materials for containment and cleaning up

- Dispose in accordance with the Waste Control Law.

SECTION 7. HANDLING AND STORAGE

A. Handling :

- Use in the place where put on appropriate ventilation.
- Wash thoroughly after handling.

B. Storage Precautionary Statements :

- Store and handle in accordance with laws and regulations in force.
- Storage regulation of U.S.A : U.S OSHA 29 CFR 1910.101
- Protect body from injury.
- Avoid to contact with incompatible materials.
- Internal Storage : Store in well-ventilated area.
- Storage temperature : Normal temperature
- Storage pressure : Atmospheric

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

A. Exposure limits, biological exposure limits etc:

- Exposure limit under ISHL : Not available
- ACGIH : Not available
- Biological exposure limits : Not available

B. Engineering Controls :

- A system of local and/or general exhaust is recommended to keep employee exposures above the Exposure Limits. Local exhaust ventilation is generally preferred because it can control the emissions of the contaminant at its source, preventing dispersion of it into the general work area. The use of local exhaust ventilation is recommended to control emissions near the source.

Laboratory samples should be handled in a fumehood. Provide mechanical ventilation of confined spaces. Check the exposure standard out.

A. Personal Protective Equipment

- Respiratory Protection : Under conditions of frequent use or heavy exposure, Respiratory protection may be needed. Respiratory protection is ranked in order from minimum to maximum. Consider warning properties before use.
 - Dust, mist and fume respirator with organic vapor cartridge.
 - Air filtration respirators with high efficiency particle filter media.
 - Powered Air Purifying Respirator with filter media for dust, mist and fume.
 - Respirator attached electrically-powered fan with full facepiece and high efficiency particle filter media.
- For Unknown Concentration or Immediately Dangerous to Life or Health
 - Air-Supplying Respirator(combination airline mask)
 - Full-face mask airline respirators
- Eye protection
 - Protect eyes in gas phase if possible.
 - Use chemical safety goggles to protect from dusting or splashing of solutions.
 - Do not put on contact lenses.
 - Ensure that eyewash stations and safety showers are close to warehouse or the workstation location.
- Hand protection
 - Wear appropriate protective anti-chemical gloves.
- Body protection
 - Wear impermeable boots.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

A. Appearance	Amorphous solid
B. Odor	None
C. Odor threshold	Not available
D. pH	Not applicable
E. Melting point / Freezing point	Not available
F. Initial Boiling Point / Boiling Ranges	Not available
G. Flash point	288 °C
H. Evaporation Rate	Not available
I. Flammability (solid, gas)	> 550F (>228 °C)
J. Upper/Lower Flammability or explosive limits	Lower explosive limits : 25g/m ³
K. Vapor pressure	Not available
L. Solubility	Insoluble in water
M. Vapor density	Not available
N. Relative density	0.91~0.97

O. Partition coefficient of n-octanol/water	Not available
P. Autoignition Temperature	824F (440°C Mist)
Q. Decomposition Temperature	Not applicable
R. Viscosity	Not available

SECTION 10. STABILITY AND REACTIVITY

- A. Chemical Stability :
- Stable in normal temperature and pressure.
 - May burn but not easy to ignite.
- B. Possibility of Hazardous Reaction :
- May not occur
- C. Conditions to avoid :
- Heat, Spark, Flame
- D. Materials to avoid :
- Aromatic compound, Chlorinated hydrocarbon, Combustibles, Oxidizing agent
- E. Hazardous Decomposition Products :
- May produce irritant, oxidizing smoke in pyrolysis.

SECTION 11. TOXICOLOGICAL INFORMATION

- A. Information on the likely routes of exposure :
- Respiratory tracts : Not classifiable
 - Oral: Not classifiable
 - Eye-Skin : Not classifiable
- B. Delayed and immediate effects and also chronic effects from short and long term exposure:
- Acute Toxicity
 - Acute oral toxicity : Not available
 - Acute dermal toxicity : Not available
 - Acute inhalation toxicity : LC50 164.5mg/L/hr (rat)
 - Skin Corrosion/Irritation : Not classifiable(human)
 - Serious Eye damage/Eye irritation : Not classifiable(rabbit) - 500mg/24hr, Mild irritation
 - Respiratory sensitization : Not classifiable
 - Skin sensitization : Not classifiable

- Carcinogenicity : Not Classifiable (human, rat, mice)
Not Classifiable as a carcinogen in NTP, IARC
IARC Group 3(Not classifiable as to its carcinogenicity to humans)
- Germ Cell Mutagenicity : Not available
- Reproductive toxicity : Not Classifiable
- Specific target organ toxicity(single exposure) : Not available
- Specific target organ toxicity(repeated exposure) : Not available
- Aspiration hazard : Not available

C. Other toxicity information :

- Mist causes irritation.
- Haze of high concentration causes toxic effect.

SECTION 12. ECOLOGICAL INFORMATION


- A. Aquatic toxicity : Not available
- B. Persistence and degradability : Not available
- C. Bioaccumulative potential : Not available
- D. Mobility in soil : Not available
- E. Other adverse effects : Not available

SECTION 13. DISPOSAL CONSIDERATIONS

- A. Disposal methods :
 - 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 local laws and regulations in order to determine the proper disposal of the waste in accordance with all applicable federal, state and/or local laws and regulations.
- B. Special precautions for disposal :
 - The user of this product must disposal by oneself or entrust to waste disposer or person who other's waste recycle and dispose, person who establish and operate waste disposal facilities.
 - Dispose of waste in accordance with local regulation.

SECTION 14. TRANSPORT INFORMATION

- A. UN Number : Not available
- B. UN Proper Shipping name : Not available

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C. Transport hazard class(es) : Not available

D. Packing group : Not available

E. Sea pollutants : Not available

F. Special precautions for user related to transport or transportation measures

Type of extraordinary step in fire : F-A

Type of extraordinary step in spill : Not applicable

- Local transport follows in accordance with Dangerous goods Safety Management Law.

- Package and transport follow in accordance with Department of Transportation (DOT) and other regulatory agency requirements.

SECTION 15. REGULATORY INFORMATION

A. ISHL(The industrial Safety and Health Law) :

- This product is not subject to the chemical for classification and labeling under ISHL Article 41.

- This product is not subject to the chemical needs monitoring workplace exposure limit under ISHL Article 42.

- This product is not subject to the chemical specified the exposure limit under ISHL Article 42., Public notice 2008-2.

- This product is not contain a chemical subject to regulated hazardous substances under Industrial Health Standards Article 166, Table 7.

B. TCCA(The Toxic Chemical Control Act) :

- This product is not classified as Toxic chemical and Observational chemical under TCCA Article 2.3. and 2.4.

C. Dangerous goods Safety Management Law :

- This product is not classified under the Presidential decree of Dangerous goods Safety Management Law, Revision 2006.05.25, Table 1.

D. Waste Management Law :

- This product is classified as Waste beside Designated Waste under The Presidential decree of Waste Management Law, Table 1.

E. Other local or international regulation :

POPs Management Law : Not applicable

Rotterdam Convention on Harmful Chemicals & Pesticides : Not applicable


Stockholm Convention on Persistent Organic Pollutants : Not applicable

Montreal Protocol on Substances That Deplete the Ozone Layer : Not applicable

EU Classification : Not available

Administration Information of U.S.A

- OSHA regulation (29CFR1910.119) : Not applicable

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- CERCLA 103 regulation (40CFR302.4) : Not applicable
- EPCRA 302 regulation (40CFR355.30) : Not applicable
- EPCRA 304 regulation (40CFR355.40) : Not applicable
- EPCRA 313 regulation (40CFR372.65) : Not applicable

SECTION 16. OTHER INFORMATION

- A. Reference : Handbook of Industrial toxication, SHINKWANGPUB, TOXNET,
U.S. National Library of Medicine, NCIS,
National Institute of Environmental Research(<http://ncis.nier.go.kr>),
Hazardous material information management system,
National Emergency Management Agency(<http://hazmat.nema.go.kr>),
IUCLID Chemical Data Sheet, EC-ECB
- B. Revision Data : 2010. 11. 27
- C. Issue date and Revision number :
- 2000. 03. 01(1st)
 - 2008. 10. 27(2nd)
 - 2010. 10. 27(3rd)
- D. Other reference in connection with preparation of MSDS :
- LG Chem, Ltd., Korea
 - Occupational Safety & Health Agency
- E. Other information : Not available

Division of Preparation	Team of SBS production	Person of Preparation	Kim, Nam-su	Deliberation (Team manager of environmental safety support team)	Park, Sang- Chun	Deliberation (Team manager of using division)	Lim, Seung- Uk
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