

Material Safety Data Sheet

(STYRENE-BUTADIENE RUBBER)

MSDS NO.

LGCD-4201E

CAS NO.

9003-55-8

1. Product and company identification

a. Product name: SBR 1502 (STYRENE-BUTADIENE RUBBER)

Product code : SB1502

b. Recommended use of the chemical and restrictions on use

General use : Intended for use in tire, shoes manufacturing and general rubber goods

Restriction on Use : Not available

c. Information on manufacturer/supplier/distributor :

Company name; LG Chem., LTD.

Address; 679, Daejuk-ri, Daesan-eup, Seosan-city, Chungcheongnam-do,356-715, KOREA

Information service or emergency contact no.; +82-41-661-2700

Fax number ; +82-41-661-2709

Responsible department; Rubber/specialty Polymers Division, SBR/NBR Production team

2. Hazards identification

a. Hazard classification; Not classifiable

b. Label elements including precautionary statements

- Pictograms; Not applicable
- Signal words; Not applicable
- Hazard statements; Not applicable
- Precautionary statements; Not applicable

c. Other hazards which do not result in classification (e.g. dust explosion hazard)

NFPA(0-4) : health=1, Flammability=1, Reactivity =0

0=Insignificant, 1=slight, 2=Moderate, 3=High, 4=Extreme

3. Composition/Information on ingredients

Chemical Name	Other name	CAS No or Identification no	Content (%)
Styrene-butadiene rubber	SBR	9003-55-8	100

4. First aid measures

a. Eye contact

Flush eyes thoroughly with water for several minutes. Remove contact lenses after the initial 1-2 minutes and continue flushing for several additional minutes. If effects occur, consult a physician, preferably an ophthalmologist.

b. Skin contact

Wash skin with plenty of water.

c. Inhalation

Move person to fresh air; if effects occur, consult a physician.

d. Ingestion

No emergency medical treatment necessary.

e. Most important acute and delayed symptoms/effects

Not available.

f. First aid and notes for physicians

No specific antidote. Treatment of exposure should be directed at the control of symptoms and the condition of the patient.

5. Fire-Fighting measures

a. Suitable (and unsuitable) extinguishing media

Suitable extinguishing media; Use an extinguishing agent suitable for the surrounding fire. Water. Dry chemical fire extinguishers. Carbon dioxide fire extinguishers. foam
Unsuitable extinguishing media: None Known.

b. Specific hazards arising from the chemical (e.g. hazardous combustion products)

Dense smoke is emitted when burned without sufficient oxygen.

c. Special protective equipment and precautions for fire-fighters

Special protective equipment for fire fighters;
Wear positive-pressure self-contained breathing apparatus(SCBA) and protective fire fighting clothing (includes fire fighting helmet, coat, trousers, boots, and gloves). If protective equipment is not available or not used, fight fire from a protected location or safe distance.

Fire fighting procedures;
Keep people away. Isolate fire and deny unnecessary entry. Soak thoroughly with water to cool and prevent re-ignition. Cool surroundings with water to localize fire zone.

6. Accidental release measures

a. Measures required for personal protection and protective equipment

No special measures required.

b. Measures required for environment protection

No special measures required.

c. Clean-up and removal method

Sweep up. Recover spilled material if possible. Collect in suitable containers for disposal or reuse.

7. Handling and storage

a. Precautions for safe handling

Provided good ventilation and/or local exhaust systems are used.
Avoid prolonged or repeated contact with skin. Use good personal hygiene.
Do not consume or store food in the work area. Wash hands before smoking or eating.
Take precautionary measures against static discharges.
Electrically bond and ground all containers and equipment before transfer or use of material.

b. Conditions for safe storage (including incompatibilities)

Minimize sources of ignition, such as static build-up, heat, spark or flame.
Store in a dry place. Store away from direct sunlight.

8. Exposure controls & personal protection

a. Exposure limits of the chemical substance, biological exposure limits and etc.

None established.

b. Appropriate engineering controls

Ventilation; Good general ventilation should be sufficient for most conditions.
Local exhaust ventilation may be necessary for some operations.

c. Personal protective equipment

Protection of respiratory system;
Use an approved air-purifying respirator when vapors are generated at increased temperatures of when dust or mist is present.
Eye protection;
Protective goggles with side shield or tightly fitting protective goggles.
Hand protection;
Chemical protective gloves should not be needed when handling this material.
Consistent with general hygienic practice for any material, skin contact should be minimized.
Body protection;
No precautions other than clean body-covering clothing should be needed.

9. Physical and chemical properties

a. Appearance (physical state, color, etc.)	Solid(Rubber bales), Yellowish
b. Odor	Characteristic(Slight)
c. Odor threshold.	Not applicable
d. pH	Not applicable
e. Melting point/freezing point.	Not applicable
f. Initial boiling point and boiling range.	Not applicable
g. Flash point	Not applicable
h. Evaporation rate	Not applicable
i. Flammability (solid, gas).	Not applicable
j. Upper/lower flammable or explosive limits.	Not applicable
k. Vapor pressure.	Not applicable
l. Solubility.	Insoluble in water
m. Vapor density.	Not applicable
n. Specific gravity.	0.94 (based on water)
o. Partition coefficient : n-octanol/water.	Not applicable
p. Auto-ignition temperature	Not applicable
q. Decomposition temperature.	Not applicable
r. Viscosity	Not applicable
s. Molecular weight.	Not applicable

10. Stability and reactivity

- a. Chemical stability**
Stable under recommended storage conditions.
- b. Possibility of hazardous reactions**
Will not occur
- c. Conditions to avoid (e.g. static discharge, shock, vibration, etc.)**
Avoid temperatures above 200 °C (392 °F).
Product contains residual unsaturation which can undergo exothermic oxidative degradation.
Accumulation of product in areas exposed to elevated temperatures for extended periods in air may result in self-heating and autoignition. Avoid direct sunlight.
- d. Incompatible materials**
Avoid contact with oxidizing materials.
- e. Hazardous decomposition products**
Caused by smoldering and incomplete combustion toxic fumes mainly consisting of CO and CO₂ may be developed. Degradation products of the polymers and their additives may also be formed.

11. Toxicological information

- a. Information on the likely routes of exposure**
(Respiratory system) Not classifiable
(Oral) Not classifiable
(Eye · skin) Not classifiable
- b. Delayed and immediate effects and chronic effects from short or long term exposure**
Acute toxicity (All routes of possible exposure shall be mentioned.)
 - Acute oral toxicity; Not available
 - Acute dermal toxicity; Not available
 - Acute inhalation toxicity; Not available**Skin corrosion/irritation**
Not classifiable.
Serious eye damage/eye irritation
Not classifiable.
Respiratory sensitization
Not classifiable.
Skin sensitization
Not classifiable.
Carcinogenicity
Not Classifiable
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. Numerical measures of toxicity (acute toxicity estimation (ATE), etc.)**

12. Ecological information

- a. **Aquatic and terrestrial ecotoxicity**
Not available
- b. **Persistence and degradability**
Not available
- c. **Bioaccumulation**
Not available
- d. **Mobility in soil**
Not available
- e. **Other adverse effects**
Not available

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. **Precautions for disposal (including the disposal method of contaminated containers and packages)**
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.

14. Transport information

- a. **UN number**
Not available
- b. **UN proper shipping name**
Not available
- c. **Transport hazard classes**
Not available
- d. **Packing group, if applicable**
Not available
- e. **Marine pollutant (yes/no)**
Not available
- f. **Information on any special precautions, which a user needs to be aware of, or needs to comply with in connection with transport**
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.

15. Regulatory information

a. 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. Toxic Chemical Control Law

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

c. Dangerous Goods Safety Control Law (from Chap.5 in old MSDS)

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

d. Wastes Management Law (from Chap.13 in old MSDS)

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

e. Other regulations in domestic and foreign countries

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

- 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

16. Other information

a. Sources of reference materials

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. The first date of preparation (from Chap.1 in old MSDS)

2008. 04. 28

c. Number of revision times and the latest revision date (from Chap.1 in old MSDS)

2009. 02. 06 (Rev.1)

d. Others

The Data given here is based on current knowledge and experience.

The purpose of this Safety Data Sheet is to describe the products in terms of their safety requirements.

The above details do not imply any guarantee concerning composition, properties or performance.