

# SAFETY DATA SHEET

## SBR1502E

Rubber Complex SINOPEC QILU Petrochemical CO.

Issue Date: 03/06/2018  
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S.GHS.CHN.EN

### SECTION 1 IDENTIFICATION OF THE SUBSTANCE / MIXTURE AND OF THE COMPANY / UNDERTAKING

#### Product Identifier

Product name	SBR1502E
Chemical Name	Styrene-Butadiene Rubber 1502E
Chemical English Name	Styrene-Butadiene Rubber 1502E
Synonyms	Not Available
Chemical formula	(C8H8.C4H6)x
Other means of identification	SDS-002
CAS number	9003-55-8*

#### Relevant identified uses of the substance or mixture and uses advised against

Relevant identified uses	Used in bright colors and light-colored rubber products, such as the tire sidewall, transparent rubber shoes, tape, medical products, etc., can also be used for tire treads, conveyor belts, hoses and other black products.
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#### Details of the supplier of the safety data sheet

Registered company name	Rubber Complex SINOPEC QILU Petrochemical CO.
Address	South End of Xinhua Road, Linzi, Zibo, Shandong, China
Telephone	0086-533-754-5746
Fax	0086-533-754-8168
Email	xjc_heyunhui@sina.cn

#### Emergency telephone number

Association / Organisation	Not Available
Emergency telephone numbers	0086-533-754-8967
Other emergency telephone numbers	Not Available

### SECTION 2 HAZARDS IDENTIFICATION


#### Classification of the substance or mixture

##### SUMMARY OF HAZARD IN AN EMERGENCY SITUATION

Solid.  
Does not mix with water.  
Floats on water. Combustible.  
May cause SENSITISATION by skin contact.

Classification <sup>[1]</sup>	Skin Sensitizer Category 1
Legend:	1. Classified by Chemwatch; 2. Classification drawn from Catalog of Hazardous Chemical; 3. Classification drawn from EC Directive 1272/2008 - Annex VI

#### Label elements

Hazard pictogram(s)	
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SIGNAL WORD | **WARNING**

#### Hazard statement(s)

H317	May cause an allergic skin reaction.
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**Precautionary statement(s) Prevention**

P280	Wear protective gloves/protective clothing/eye protection/face protection.
P261	Avoid breathing dust/fumes.
P272	Contaminated work clothing should not be allowed out of the workplace.

**Precautionary statement(s) Response**

P302+P352	IF ON SKIN: Wash with plenty of water and soap.
P333+P313	If skin irritation or rash occurs: Get medical advice/attention.
P362+P364	Take off contaminated clothing and wash it before reuse.

**Precautionary statement(s) Storage**

Not Applicable

**Precautionary statement(s) Disposal**

P501	Dispose of contents/container in accordance with local regulations.
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**Physical and Chemical Hazard**

Solid.  
Does not mix with water.  
Floats on water. Combustible.  
Toxic smoke/fumes in a fire.

**Health Hazards**

Inhaled	<p>The material is not thought to produce adverse health effects or irritation of the respiratory tract (as classified by EC Directives using animal models). Nevertheless, good hygiene practice requires that exposure be kept to a minimum and that suitable control measures be used in an occupational setting. Fully cured, vulcanized styrene/butadiene rubber (SBR) products have low toxicity. Dusts may cause temporary mild irritation and coughing. Uncured (unvulcanised) SBR may contain styrene, butadiene residues, solvents and processing agents, which may have harmful effects. These chemicals may be inhaled in the form of vapours emitted from the solid material or as components of dust particles. SBR may emit irritating, even toxic, decomposition products if overheated or burned.</p> <p>Processing for an overly long time or processing at overly high temperatures may cause generation and release of highly irritating vapours, which irritate eyes, nose, throat, causing red itching eyes, coughing, sore throat. Not normally a hazard due to non-volatile nature of product</p>
Ingestion	<p>The material has <b>NOT</b> been classified by EC Directives or other classification systems as 'harmful by ingestion'. This is because of the lack of corroborating animal or human evidence.</p> <p>Not normally a hazard due to the physical form of product. The material is a physical irritant to the gastro-intestinal tract High molecular weight material; on single acute exposure would be expected to pass through gastrointestinal tract with little change / absorption. Occasionally accumulation of the solid material within the alimentary tract may result in formation of a bezoar (concretion), producing discomfort.</p>
Skin Contact	<p>The material is not thought to produce adverse health effects or skin irritation following contact (as classified by EC Directives using animal models). Nevertheless, good hygiene practice requires that exposure be kept to a minimum and that suitable gloves be used in an occupational setting. Molten material is capable of causing burns.</p>
Eye	<p>Although the material is not thought to be an irritant (as classified by EC Directives), direct contact with the eye may cause transient discomfort characterised by tearing or conjunctival redness (as with windburn). Slight abrasive damage may also result.</p>
Chronic	<p>Skin contact with the material is more likely to cause a sensitisation reaction in some persons compared to the general population. This material contains a substantial amount of polymer considered to be of low concern. These are classified under having MWs of between 1000 to 10000 with less than 25% of molecules with MWs under 1000 and less than 10% under 500; or having a molecular weight average of over 10000.</p>

**Environmental Hazards**

See Section 12

**Other hazards**

May produce discomfort of the respiratory system\*.

**SECTION 3 COMPOSITION / INFORMATION ON INGREDIENTS****Substances**

CAS No	%[weight]	Name
9003-55-8	≥92	styrene/ butadiene rubber
-	≤8	filling agent

**Mixtures**

See section above for composition of Substances

**SECTION 4 FIRST AID MEASURES****Description of first aid measures**

General
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Eye Contact	<p>If this product comes in contact with eyes:</p> <ul style="list-style-type: none"> <li>- Wash out immediately with water.</li> <li>- If irritation continues, seek medical attention.</li> <li>- Removal of contact lenses after an eye injury should only be undertaken by skilled personnel.</li> </ul> <p>For THERMAL burns:</p> <ul style="list-style-type: none"> <li>- <b>Do NOT remove contact lens</b></li> <li>- Lay victim down, on stretcher if available and pad <b>BOTH</b> eyes, make sure dressing does not press on the injured eye by placing thick pads under dressing, above and below the eye.</li> <li>- Seek urgent medical assistance, or transport to hospital.</li> </ul>
Skin Contact	<p>If skin contact occurs:</p> <ul style="list-style-type: none"> <li>- Immediately remove all contaminated clothing, including footwear.</li> <li>- Flush skin and hair with running water (and soap if available).</li> <li>- Seek medical attention in event of irritation.</li> </ul> <p>In case of burns:</p> <ul style="list-style-type: none"> <li>- Immediately apply cold water to burn either by immersion or wrapping with saturated clean cloth.</li> <li>- <b>DO NOT remove or cut away clothing over burnt areas. DO NOT pull away clothing which has adhered to the skin as this can cause further injury.</b></li> <li>- <b>DO NOT break blister or remove solidified material.</b></li> <li>- Quickly cover wound with dressing or clean cloth to help prevent infection and to ease pain.</li> <li>- For large burns, sheets, towels or pillow slips are ideal; leave holes for eyes, nose and mouth.</li> <li>- <b>DO NOT apply ointments, oils, butter, etc. to a burn under any circumstances.</b></li> <li>- Water may be given in small quantities if the person is conscious.</li> <li>- Alcohol is not to be given under any circumstances.</li> <li>- Reassure.</li> <li>- Treat for shock by keeping the person warm and in a lying position.</li> <li>- Seek medical aid and advise medical personnel in advance of the cause and extent of the injury and the estimated time of arrival of the patient.</li> </ul> <p>For thermal burns:</p> <ul style="list-style-type: none"> <li>- Decontaminate area around burn.</li> <li>- Consider the use of cold packs and topical antibiotics.</li> </ul> <p>For first-degree burns (affecting top layer of skin)</p> <ul style="list-style-type: none"> <li>- Hold burned skin under cool (not cold) running water or immerse in cool water until pain subsides.</li> <li>- Use compresses if running water is not available.</li> <li>- Cover with sterile non-adhesive bandage or clean cloth.</li> <li>- Do NOT apply butter or ointments; this may cause infection.</li> <li>- Give over-the counter pain relievers if pain increases or swelling, redness, fever occur.</li> </ul> <p>For second-degree burns (affecting top two layers of skin)</p> <ul style="list-style-type: none"> <li>- Cool the burn by immerse in cold running water for 10-15 minutes.</li> <li>- Use compresses if running water is not available.</li> <li>- Do NOT apply ice as this may lower body temperature and cause further damage.</li> <li>- Do NOT break blisters or apply butter or ointments; this may cause infection.</li> <li>- Protect burn by cover loosely with sterile, nonstick bandage and secure in place with gauze or tape.</li> </ul> <p>To prevent shock: (unless the person has a head, neck, or leg injury, or it would cause discomfort):</p> <ul style="list-style-type: none"> <li>- Lay the person flat.</li> <li>- Elevate feet about 12 inches.</li> <li>- Elevate burn area above heart level, if possible.</li> <li>- Cover the person with coat or blanket.</li> <li>- Seek medical assistance.</li> </ul> <p>For third-degree burns</p> <p>Seek immediate medical or emergency assistance.</p> <p>In the mean time:</p> <ul style="list-style-type: none"> <li>- Protect burn area cover loosely with sterile, nonstick bandage or, for large areas, a sheet or other material that will not leave lint in wound.</li> <li>- Separate burned toes and fingers with dry, sterile dressings.</li> <li>- Do not soak burn in water or apply ointments or butter; this may cause infection.</li> <li>- To prevent shock see above.</li> <li>- For an airway burn, do not place pillow under the person's head when the person is lying down. This can close the airway.</li> <li>- Have a person with a facial burn sit up.</li> <li>- Check pulse and breathing to monitor for shock until emergency help arrives.</li> </ul>
Inhalation	<ul style="list-style-type: none"> <li>- If fumes, aerosols or combustion products are inhaled remove from contaminated area.</li> <li>- Other measures are usually unnecessary.</li> </ul>
Ingestion	<ul style="list-style-type: none"> <li>- Immediately give a glass of water.</li> <li>- First aid is not generally required. If in doubt, contact a Poisons Information Centre or a doctor.</li> </ul>

#### Advise for rescue team (PPE requirement for rescue personnel)

#### Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

### SECTION 5 FIREFIGHTING MEASURES

#### Extinguishing media

- **Do NOT direct a solid stream of water or foam into burning molten material; this may cause spattering and spread the fire.**
- Water spray or fog.
- Alcohol stable foam.
- Dry chemical powder.
- Carbon dioxide.

#### Special hazards arising from the substrate or mixture

Fire Incompatibility	- Avoid contamination with oxidising agents i.e. nitrates, oxidising acids, chlorine bleaches, pool chlorine etc. as ignition may result
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#### Advice for firefighters

Fire Fighting	- Alert Fire Brigade and tell them location and nature of hazard.
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	<ul style="list-style-type: none"> <li>- Wear breathing apparatus plus protective gloves in the event of a fire.</li> <li>- Prevent, by any means available, spillage from entering drains or water courses.</li> <li>- Use fire fighting procedures suitable for surrounding area.</li> <li>- <b>DO NOT</b> approach containers suspected to be hot.</li> <li>- Cool fire exposed containers with water spray from a protected location.</li> <li>- If safe to do so, remove containers from path of fire.</li> <li>- Equipment should be thoroughly decontaminated after use.</li> </ul>
Fire/Explosion Hazard	<ul style="list-style-type: none"> <li>- Solid which exhibits difficult combustion or is difficult to ignite.</li> <li>- Avoid generating dust, particularly clouds of dust in a confined or unventilated space as dusts may form an explosive mixture with air, and any source of ignition, i.e. flame or spark, will cause fire or explosion.</li> <li>- Dust clouds generated by the fine grinding of the solid are a particular hazard; accumulations of fine dust (420 micron or less) may burn rapidly and fiercely if ignited; once initiated larger particles up to 1400 microns diameter will contribute to the propagation of an explosion.</li> <li>- A dust explosion may release large quantities of gaseous products; this in turn creates a subsequent pressure rise of explosive force capable of damaging plant and buildings and injuring people.</li> <li>- Usually the initial or primary explosion takes place in a confined space such as plant or machinery, and can be of sufficient force to damage or rupture the plant. If the shock wave from the primary explosion enters the surrounding area, it will disturb any settled dust layers, forming a second dust cloud, and often initiate a much larger secondary explosion. All large scale explosions have resulted from chain reactions of this type.</li> <li>- Dry dust can also be charged electrostatically by turbulence, pneumatic transport, pouring, in exhaust ducts and during transport.</li> <li>- Build-up of electrostatic charge may be prevented by bonding and grounding.</li> <li>- Powder handling equipment such as dust collectors, dryers and mills may require additional protection measures such as explosion venting.</li> <li>- All movable parts coming in contact with this material should have a speed of less than 1-metre/sec.</li> </ul> <p>Combustion products include: carbon monoxide (CO) carbon dioxide (CO<sub>2</sub>) other pyrolysis products typical of burning organic material.</p> <p><b>NOTE:</b> Burns with intense heat. Produces melting, flowing, burning liquid and dense acrid black smoke. May emit corrosive fumes.</p> <p><b>CARE:</b> Contamination of heated / molten liquid with water may cause violent steam explosion, with scattering of hot contents.</p>

## SECTION 6 ACCIDENTAL RELEASE MEASURES

### Personal precautions, protective equipment and emergency procedures

See section 8

### Measures for Preventing Secondary Contamination

Refer to section above

### Environmental precautions

See section 12

### Methods and material for containment and cleaning up

Minor Spills	<ul style="list-style-type: none"> <li>- Clean up all spills immediately.</li> <li>- Avoid breathing dust and contact with skin and eyes.</li> <li>- Wear protective clothing, gloves, safety glasses and dust respirator.</li> <li>- Use dry clean up procedures and avoid generating dust.</li> <li>- Sweep up, shovel up or</li> <li>- Vacuum up (consider explosion-proof machines designed to be grounded during storage and use).</li> <li>- Place spilled material in clean, dry, sealable, labelled container.</li> </ul>
Major Spills	<p>Moderate hazard.</p> <ul style="list-style-type: none"> <li>- <b>CAUTION:</b> Advise personnel in area.</li> <li>- Alert Emergency Services and tell them location and nature of hazard.</li> <li>- Control personal contact by wearing protective clothing.</li> <li>- Prevent, by any means available, spillage from entering drains or water courses.</li> <li>- Recover product wherever possible.</li> <li>- <b>IF DRY:</b> Use dry clean up procedures and avoid generating dust. Collect residues and place in sealed plastic bags or other containers for disposal. <b>IF WET:</b> Vacuum/shovel up and place in labelled containers for disposal.</li> <li>- <b>ALWAYS:</b> Wash area down with large amounts of water and prevent runoff into drains.</li> <li>- If contamination of drains or waterways occurs, advise Emergency Services.</li> </ul>

Personal Protective Equipment advice is contained in Section 8 of the SDS.

## SECTION 7 HANDLING AND STORAGE

### Precautions for safe handling

Safe handling	<ul style="list-style-type: none"> <li>- The greatest potential for injury caused by molten materials occurs during purging of machinery (moulders, extruders etc.)</li> <li>- It is essential that workers in the immediate area of the machinery wear eye and skin protection (such as full face, safety glasses, heat resistant gloves, overalls and safety boots) as protection from thermal burns.</li> <li>- Fumes or vapours emitted from hot melted materials, during converting operations, may condense on overhead metal surfaces or exhaust ducts. The condensate may contain substances which are irritating or toxic. Avoid contact of that material with the skin. Wear rubber or other impermeable gloves when cleaning contaminated areas.</li> <li>- Avoid process temperatures above decomposition temperatures. Overheating may occur at excessively high cylinder heats, overworking of the melt by wrong screw configuration, or by long dwell time in the machine. Under such conditions, thermal emissions and heat-degradation products might, without proper ventilation, reach hazardous concentrations in the converting area. Hot purgings should be collected only as thin flat strands to allow for rapid cooling. Hot purgings should be cooled by quenching in water in a well-ventilated area.</li> <li>- Avoid all personal contact, including inhalation.</li> <li>- Wear protective clothing when risk of exposure occurs.</li> <li>- Use in a well-ventilated area.</li> </ul>
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	<ul style="list-style-type: none"> <li>- Prevent concentration in hollows and sumps.</li> <li>- <b>DO NOT</b> enter confined spaces until atmosphere has been checked.</li> <li>- <b>DO NOT</b> allow material to contact humans, exposed food or food utensils.</li> <li>- Avoid contact with incompatible materials.</li> <li>- <b>When handling, DO NOT</b> eat, drink or smoke.</li> <li>- Keep containers securely sealed when not in use.</li> <li>- Avoid physical damage to containers.</li> <li>- Always wash hands with soap and water after handling.</li> <li>- Work clothes should be laundered separately. Launder contaminated clothing before re-use.</li> <li>- Use good occupational work practice.</li> <li>- Observe manufacturer's storage and handling recommendations contained within this SDS.</li> <li>- Atmosphere should be regularly checked against established exposure standards to ensure safe working conditions are maintained.</li> <li>- Organic powders when finely divided over a range of concentrations regardless of particulate size or shape and suspended in air or some other oxidizing medium may form explosive dust-air mixtures and result in a fire or dust explosion (including secondary explosions)</li> <li>- Minimise airborne dust and eliminate all ignition sources. Keep away from heat, hot surfaces, sparks, and flame.</li> <li>- Establish good housekeeping practices.</li> <li>- Remove dust accumulations on a regular basis by vacuuming or gentle sweeping to avoid creating dust clouds.</li> <li>- Use continuous suction at points of dust generation to capture and minimise the accumulation of dusts. Particular attention should be given to overhead and hidden horizontal surfaces to minimise the probability of a 'secondary' explosion. According to NFPA Standard 654, dust layers 1/32 in.(0.8 mm) thick can be sufficient to warrant immediate cleaning of the area.</li> <li>- Do not use air hoses for cleaning.</li> <li>- Minimise dry sweeping to avoid generation of dust clouds. Vacuum dust-accumulating surfaces and remove to a chemical disposal area. Vacuums with explosion-proof motors should be used.</li> <li>- Control sources of static electricity. Dusts or their packages may accumulate static charges, and static discharge can be a source of ignition.</li> <li>- Solids handling systems must be designed in accordance with applicable standards (e.g. NFPA including 654 and 77) and other national guidance.</li> <li>- Do not empty directly into flammable solvents or in the presence of flammable vapors.</li> <li>- The operator, the packaging container and all equipment must be grounded with electrical bonding and grounding systems. Plastic bags and plastics cannot be grounded, and antistatic bags do not completely protect against development of static charges.</li> </ul> <p>Empty containers may contain residual dust which has the potential to accumulate following settling. Such dusts may explode in the presence of an appropriate ignition source.</p> <ul style="list-style-type: none"> <li>- <b>Do NOT</b> cut, drill, grind or weld such containers.</li> <li>- In addition ensure such activity is not performed near full, partially empty or empty containers without appropriate workplace safety authorisation or permit.</li> </ul>
Other information	<ul style="list-style-type: none"> <li>- Store in original containers.</li> <li>- Keep containers securely sealed.</li> <li>- Store in a cool, dry area protected from environmental extremes.</li> <li>- Store away from incompatible materials and foodstuff containers.</li> <li>- Protect containers against physical damage and check regularly for leaks.</li> <li>- Observe manufacturer's storage and handling recommendations contained within this SDS.</li> </ul> <p>For major quantities:</p> <ul style="list-style-type: none"> <li>- Consider storage in banded areas - ensure storage areas are isolated from sources of community water (including stormwater, ground water, lakes and streams).</li> <li>- Ensure that accidental discharge to air or water is the subject of a contingency disaster management plan; this may require consultation with local authorities.</li> </ul>

#### Conditions for safe storage, including any incompatibilities

Suitable container	<ul style="list-style-type: none"> <li>- Lined metal can, lined metal pail/ can.</li> <li>- Plastic pail.</li> <li>- Polyliner drum.</li> <li>- Packing as recommended by manufacturer.</li> <li>- Check all containers are clearly labelled and free from leaks.</li> </ul>
Storage incompatibility	<ul style="list-style-type: none"> <li>- Avoid reaction with oxidising agents</li> </ul>



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X — Must not be stored together  
 O — May be stored together with specific preventions  
 + — May be stored together

## SECTION 8 EXPOSURE CONTROLS / PERSONAL PROTECTION

### Control parameters

#### OCCUPATIONAL EXPOSURE LIMITS (OEL)

#### INGREDIENT DATA

Not Available

#### EMERGENCY LIMITS

Ingredient	Material name	TEEL-1	TEEL-2	TEEL-3
SBR1502	Not Available	Not Available	Not Available	Not Available

Ingredient	Original IDLH	Revised IDLH
styrene/ butadiene rubber	Not Available	Not Available

### Exposure controls

Appropriate engineering controls	For molten materials: Provide mechanical ventilation; in general such ventilation should be provided at compounding/ converting areas and at fabricating/ filling work stations where
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the material is heated. Local exhaust ventilation should be used over and in the vicinity of machinery involved in handling the molten material.

Keep dry!!

Processing temperatures may be well above boiling point of water, so wet or damp material may cause a serious steam explosion if used in unvented equipment.

Engineering controls are used to remove a hazard or place a barrier between the worker and the hazard. Well-designed engineering controls can be highly effective in protecting workers and will typically be independent of worker interactions to provide this high level of protection.

The basic types of engineering controls are:

Process controls which involve changing the way a job activity or process is done to reduce the risk.

Enclosure and/or isolation of emission source which keeps a selected hazard 'physically' away from the worker and ventilation that strategically 'adds' and 'removes' air in the work environment. Ventilation can remove or dilute an air contaminant if designed properly. The design of a ventilation system must match the particular process and chemical or contaminant in use.

Employers may need to use multiple types of controls to prevent employee overexposure.

- Local exhaust ventilation is required where solids are handled as powders or crystals; even when particulates are relatively large, a certain proportion will be powdered by mutual friction.
- If in spite of local exhaust an adverse concentration of the substance in air could occur, respiratory protection should be considered.

Such protection might consist of:

- (a): particle dust respirators, if necessary, combined with an absorption cartridge;
- (b): filter respirators with absorption cartridge or canister of the right type;
- (c): fresh-air hoods or masks.

Air contaminants generated in the workplace possess varying 'escape' velocities which, in turn, determine the 'capture velocities' of fresh circulating air required to effectively remove the contaminant.

Type of Contaminant:	Air Speed:
direct spray, spray painting in shallow booths, drum filling, conveyer loading, crusher dusts, gas discharge (active generation into zone of rapid air motion)	1-2.5 m/s (200-500 f/min.)
grinding, abrasive blasting, tumbling, high speed wheel generated dusts (released at high initial velocity into zone of very high rapid air motion).	2.5-10 m/s (500-2000 f/min.)

Within each range the appropriate value depends on:

Lower end of the range	Upper end of the range
1: Room air currents minimal or favourable to capture	1: Disturbing room air currents
2: Contaminants of low toxicity or of nuisance value only.	2: Contaminants of high toxicity
3: Intermittent, low production.	3: High production, heavy use
4: Large hood or large air mass in motion	4: Small hood-local control only

Simple theory shows that air velocity falls rapidly with distance away from the opening of a simple extraction pipe. Velocity generally decreases with the square of distance from the extraction point (in simple cases). Therefore the air speed at the extraction point should be adjusted, accordingly, after reference to distance from the contaminating source. The air velocity at the extraction fan, for example, should be a minimum of 4-10 m/s (800-2000 f/min) for extraction of crusher dusts generated 2 metres distant from the extraction point. Other mechanical considerations, producing performance deficits within the extraction apparatus, make it essential that theoretical air velocities are multiplied by factors of 10 or more when extraction systems are installed or used.

#### Personal protection



#### Eye and face protection

- Safety glasses with side shields.
- Chemical goggles.
- Contact lenses may pose a special hazard; soft contact lenses may absorb and concentrate irritants. A written policy document, describing the wearing of lenses or restrictions on use, should be created for each workplace or task. This should include a review of lens absorption and adsorption for the class of chemicals in use and an account of injury experience. Medical and first-aid personnel should be trained in their removal and suitable equipment should be readily available. In the event of chemical exposure, begin eye irrigation immediately and remove contact lens as soon as practicable. Lens should be removed at the first signs of eye redness or irritation - lens should be removed in a clean environment only after workers have washed hands thoroughly. [CDC NIOSH Current Intelligence Bulletin 59], [AS/NZS 1336 or national equivalent]

#### Skin protection

See Hand protection below

#### Hands/feet protection

##### NOTE:

- The material may produce skin sensitisation in predisposed individuals. Care must be taken, when removing gloves and other protective equipment, to avoid all possible skin contact.
- Contaminated leather items, such as shoes, belts and watch-bands should be removed and destroyed.

The selection of suitable gloves does not only depend on the material, but also on further marks of quality which vary from manufacturer to manufacturer. Where the chemical is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.

The exact break through time for substances has to be obtained from the manufacturer of the protective gloves and has to be observed when making a final choice.

Personal hygiene is a key element of effective hand care. Gloves must only be worn on clean hands. After using gloves, hands should be washed and dried thoroughly. Application of a non-perfumed moisturizer is recommended.

Suitability and durability of glove type is dependent on usage. Important factors in the selection of gloves include:

- frequency and duration of contact,
- chemical resistance of glove material,
- glove thickness and
- dexterity

Select gloves tested to a relevant standard (e.g. Europe EN 374, US F739, AS/NZS 2161.1 or national equivalent).

- When prolonged or frequently repeated contact may occur, a glove with a protection class of 5 or higher (breakthrough time greater than 240 minutes according to EN 374, AS/NZS 2161.10.1 or national equivalent) is recommended.

- When only brief contact is expected, a glove with a protection class of 3 or higher (breakthrough time greater than 60 minutes according to EN 374, AS/NZS 2161.10.1 or national equivalent) is recommended.

- Some glove polymer types are less affected by movement and this should be taken into account when considering gloves for long-term use.

- Contaminated gloves should be replaced.

For general applications, gloves with a thickness typically greater than 0.35 mm, are recommended.

It should be emphasised that glove thickness is not necessarily a good predictor of glove resistance to a specific chemical, as the permeation efficiency of the glove will be dependent on the exact composition of the glove material. Therefore, glove selection should also be based on consideration of the task requirements and knowledge of breakthrough times.

	<p>Glove thickness may also vary depending on the glove manufacturer, the glove type and the glove model. Therefore, the manufacturers' technical data should always be taken into account to ensure selection of the most appropriate glove for the task.</p> <p>Note: Depending on the activity being conducted, gloves of varying thickness may be required for specific tasks. For example:</p> <ul style="list-style-type: none"> <li>- Thinner gloves (down to 0.1 mm or less) may be required where a high degree of manual dexterity is needed. However, these gloves are only likely to give short duration protection and would normally be just for single use applications, then disposed of.</li> <li>- Thicker gloves (up to 3 mm or more) may be required where there is a mechanical (as well as a chemical) risk i.e. where there is abrasion or puncture potential</li> </ul> <p>Gloves must only be worn on clean hands. After using gloves, hands should be washed and dried thoroughly. Application of a non-perfumed moisturiser is recommended.</p> <ul style="list-style-type: none"> <li>- When handling hot materials wear heat resistant, elbow length gloves.</li> <li>- Rubber gloves are not recommended when handling hot objects, materials</li> <li>- Protective gloves eg. Leather gloves or gloves with Leather facing</li> </ul> <p>Experience indicates that the following polymers are suitable as glove materials for protection against undissolved, dry solids, where abrasive particles are not present.</p> <ul style="list-style-type: none"> <li>- polychloroprene.</li> <li>- nitrile rubber.</li> <li>- butyl rubber.</li> <li>- fluorocautchouc.</li> <li>- polyvinyl chloride.</li> </ul> <p>Gloves should be examined for wear and/ or degradation constantly.</p>
Body protection	See Other protection below
Other protection	<ul style="list-style-type: none"> <li>- When handling hot or molten liquids, wear trousers or overalls outside of boots, to avoid spills entering boots.</li> <li>- Usually handled as molten liquid which requires worker thermal protection and increases hazard of vapour exposure.</li> <li>- <b>CAUTION: Vapours may be irritating.</b></li> <li>- Overalls.</li> <li>- P.V.C. apron.</li> <li>- Barrier cream.</li> <li>- Skin cleansing cream.</li> <li>- Eye wash unit.</li> </ul>
Thermal hazards	Not Available

## Respiratory protection

Type A-P Filter of sufficient capacity (AS/NZS 1716 & 1715, EN 143:2000 & 149:2001, ANSI Z88 or national equivalent)

Required Minimum Protection Factor	Half-Face Respirator	Full-Face Respirator	Powered Air Respirator
up to 10 x ES	A P1 Air-line*	-	A PAPR-P1
up to 50 x ES	Air-line**	A P2	A PAPR-P2
up to 100 x ES	-	A P3 Air-line*	-
100+ x ES	-	Air-line**	A PAPR-P3

\* - Negative pressure demand \*\* - Continuous flow

A(All classes) = Organic vapours, B AUS or B1 = Acid gasses, B2 = Acid gas or hydrogen cyanide(HCN), B3 = Acid gas or hydrogen cyanide(HCN), E = Sulfur dioxide(SO<sub>2</sub>), G = Agricultural chemicals, K = Ammonia(NH<sub>3</sub>), Hg = Mercury, NO = Oxides of nitrogen, MB = Methyl bromide, AX = Low boiling point organic compounds(below 65 degC)

### For molten materials:

- Respirators may be necessary when engineering and administrative controls do not adequately prevent exposures.
- The decision to use respiratory protection should be based on professional judgment that takes into account toxicity information, exposure measurement data, and frequency and likelihood of the worker's exposure - ensure users are not subject to high thermal loads which may result in heat stress or distress due to personal protective equipment (powered, positive flow, full face apparatus may be an option).
- Published occupational exposure limits, where they exist, will assist in determining the adequacy of the selected respiratory protection. These may be government mandated or vendor recommended.
- Certified respirators will be useful for protecting workers from inhalation of particulates when properly selected and fit tested as part of a complete respiratory protection program.
- Use approved positive flow mask if significant quantities of dust becomes airborne.
- Try to avoid creating dust conditions.

## SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

### Information on basic physical and chemical properties

Appearance	Use may require material be molten. Molten or heated material may be compounded, moulded or extruded.  Light-colored solid bale		
Physical state	Solid	Relative density (Water = 1)	0.93-0.94
Odour	Not Available	Partition coefficient n-octanol / water	Not Available
Odour threshold	Not Available	Auto-ignition temperature (°C)	Not Applicable
pH (as supplied)	Not Available	Decomposition temperature	218
Melting point / freezing point (°C)	Not Available	Viscosity (cSt)	Not Available
Initial boiling point and boiling range (°C)	Not Available	Molecular weight (g/mol)	Not Available
Flash point (°C)	Not Applicable	Taste	Not Available
Evaporation rate	Not Available	Explosive properties	Not Available
Flammability	Not Applicable	Oxidising properties	Not Available
Upper Explosive Limit (%)	Not Available	Surface Tension (dyn/cm or mN/m)	Not Applicable

Lower Explosive Limit (%)	Not Available	Volatile Component (%vol)	Not Available
Vapour pressure (kPa)	Not Available	Gas group	Not Available
Solubility in water (g/L)	Immiscible	pH as a solution (1%)	Not Available
Vapour density (Air = 1)	Not Available	VOC g/L	Not Available

## SECTION 10 STABILITY AND REACTIVITY

Reactivity	See section 7
Chemical stability	Product is considered stable and hazardous polymerisation will not occur.
Possibility of hazardous reactions	See section 7
Conditions to avoid	See section 7
Incompatible materials	See section 7
Hazardous decomposition products	See section 5

## SECTION 11 TOXICOLOGICAL INFORMATION

SBR1502	TOXICITY	IRRITATION
styrene/ butadiene rubber	TOXICITY	IRRITATION
<p><i>Legend:</i> 1. Value obtained from Europe ECHA Registered Substances - Acute toxicity 2.* Value obtained from manufacturer's SDS. Unless otherwise specified data extracted from RTECS - Register of Toxic Effect of chemical Substances</p>		

SBR1502	The following information refers to contact allergens as a group and may not be specific to this product. Contact allergies quickly manifest themselves as contact eczema, more rarely as urticaria or Quincke's oedema. The pathogenesis of contact eczema involves a cell-mediated (T lymphocytes) immune reaction of the delayed type. Other allergic skin reactions, e.g. contact urticaria, involve antibody-mediated immune reactions. The significance of the contact allergen is not simply determined by its sensitisation potential: the distribution of the substance and the opportunities for contact with it are equally important. A weakly sensitising substance which is widely distributed can be a more important allergen than one with stronger sensitising potential with which few individuals come into contact. From a clinical point of view, substances are noteworthy if they produce an allergic test reaction in more than 1% of the persons tested.		
STYRENE/ BUTADIENE RUBBER	The material may cause skin irritation after prolonged or repeated exposure and may produce on contact skin redness, swelling, the production of vesicles, scaling and thickening of the skin.		
Acute Toxicity	☐	Carcinogenicity	☐
Skin Irritation/Corrosion	☐	Reproductivity	☐
Serious Eye Damage/Irritation	☐	STOT - Single Exposure	☐
Respiratory or Skin sensitisation	✔	STOT - Repeated Exposure	☐
Mutagenicity	☐	Aspiration Hazard	☐

**Legend:** ✘ – Data available but does not fill the criteria for classification  
✔ – Data available to make classification  
☐ – Data Not Available to make classification

## SECTION 12 ECOLOGICAL INFORMATION

### Toxicity

Ingredient	Endpoint	Test Duration (hr)	Species	Value	Source
SBR1502	Not Available	Not Available	Not Available	Not Available	Not Available
styrene/ butadiene rubber	Not Available	Not Available	Not Available	Not Available	Not Available
<p><b>Legend:</b> Extracted from 1. IUCLID Toxicity Data 2. Europe ECHA Registered Substances - Ecotoxicological Information - Aquatic Toxicity 3. EPIWIN Suite V3.12 (QSAR) - Aquatic Toxicity Data (Estimated) 4. US EPA, Ecotox database - Aquatic Toxicity Data 5. ECETOC Aquatic Hazard Assessment Data 6. NITE (Japan) - Bioconcentration Data 7. METI (Japan) - Bioconcentration Data 8. Vendor Data</p>					

### Persistence and degradability

Ingredient	Persistence: Water/Soil	Persistence: Air
	No Data available for all ingredients	No Data available for all ingredients

### Bioaccumulative potential

Ingredient	Bioaccumulation
	No Data available for all ingredients

### Mobility in soil

Ingredient	Mobility



No Data available for all ingredients

**Other adverse effects**

No data available

**SECTION 13 DISPOSAL CONSIDERATIONS****Waste treatment methods**

Waste chemicals:	<ul style="list-style-type: none"> <li>- Containers may still present a chemical hazard/ danger when empty.</li> <li>- Return to supplier for reuse/ recycling if possible.</li> </ul> Otherwise: <ul style="list-style-type: none"> <li>- If container can not be cleaned sufficiently well to ensure that residuals do not remain or if the container cannot be used to store the same product, then puncture containers, to prevent re-use, and bury at an authorised landfill.</li> <li>- Where possible retain label warnings and SDS and observe all notices pertaining to the product.</li> <li>- <b>DO NOT allow wash water from cleaning or process equipment to enter drains.</b></li> <li>- It may be necessary to collect all wash water for treatment before disposal.</li> <li>- In all cases disposal to sewer may be subject to local laws and regulations and these should be considered first.</li> <li>- Where in doubt contact the responsible authority.</li> </ul>
Contaminated packing materials:	Refer to section above
Precautions for Transport:	Refer to section above

**SECTION 14 TRANSPORT INFORMATION****Labels Required**

Marine Pollutant	NO
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**Land transport (UN): NOT REGULATED FOR TRANSPORT OF DANGEROUS GOODS****Air transport (ICAO-IATA / DGR): NOT REGULATED FOR TRANSPORT OF DANGEROUS GOODS****Sea transport (IMDG-Code / GGVSee): NOT REGULATED FOR TRANSPORT OF DANGEROUS GOODS****Transport in bulk according to Annex II of MARPOL and the IBC code**

Not Applicable

Source	Product name	Pollution Category	Ship Type
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**Precautions for Transport****Suitable Containers**

See section 7

**SECTION 15 REGULATORY INFORMATION****Safety, health and environmental regulations / legislation specific for the substance or mixture****STYRENE/ BUTADIENE RUBBER(9003-55-8) IS FOUND ON THE FOLLOWING REGULATORY LISTS**

- |   |   |
|---|---|
| - China Inventory of Existing Chemical Substances   | - International Air Transport Association (IATA) Dangerous Goods Regulations - Prohibited List Passenger and Cargo Aircraft |
| - International Agency for Research on Cancer (IARC) - Agents Classified by the IARC Monographs |   |

National Inventory	Status
Australia - AICS	Y
Canada - DSL	Y
Canada - NDSL	N (styrene/ butadiene rubber)
China - IECSC	Y
Europe - EINEC / ELINCS / NLP	N (styrene/ butadiene rubber)
Japan - ENCS	Y
Korea - KECI	Y
New Zealand - NZIoC	Y
Philippines - PICCS	Y
USA - TSCA	Y
<b>Legend:</b>	Y = All ingredients are on the inventory N = Not determined or one or more ingredients are not on the inventory and are not exempt from listing(see specific ingredients in brackets)

**SECTION 16 OTHER INFORMATION****Other information**

Continued...

**Ingredients with multiple cas numbers**

Name	CAS No
styrene/ butadiene rubber	61789-96-6, 9003-55-8, 39316-59-1, 53800-79-6, 56833-53-5, 60476-46-2, 9007-96-9, 9049-91-6

Classification of the preparation and its individual components has drawn on official and authoritative sources as well as independent review by the Chemwatch Classification committee using available literature references.

The SDS is a Hazard Communication tool and should be used to assist in the Risk Assessment. Many factors determine whether the reported Hazards are Risks in the workplace or other settings. Risks may be determined by reference to Exposures Scenarios. Scale of use, frequency of use and current or available engineering controls must be considered.

**Definitions and abbreviations**

PC—TWA: Permissible Concentration-Time Weighted Average  
PC—STEL: Permissible Concentration-Short Term Exposure Limit  
IARC: International Agency for Research on Cancer  
ACGIH: American Conference of Governmental Industrial Hygienists  
STEL: Short Term Exposure Limit  
TEEL: Temporary Emergency Exposure Limit.  
IDLH: Immediately Dangerous to Life or Health Concentrations  
OSF: Odour Safety Factor  
NOAEL :No Observed Adverse Effect Level  
LOAEL: Lowest Observed Adverse Effect Level  
TLV: Threshold Limit Value  
LOD: Limit Of Detection  
OTV: Odour Threshold Value  
BCF: BioConcentration Factors  
BEI: Biological Exposure Index

**Disclaimer**

The information in the SDS applies only for the specified product and does not include mixtures of this product with other substances and mixtures. The SDS provides product safety information for personnel trained to use this product only.