Safety Data Sheet

SKI-3 S

1. IDENTIFICATION OF SUBSTANCE / COMPANY INFORMATION

Chemical Name: Poly-2-methyl-1,3-butadiene
Synonyms: Cis-1,4-polysoprene, Cis-isoprene synthetic rubber, SKI-3S

Recommended Uses: Used in tire, technical-rubber and other industries

Chemical Family: Synthetic rubber

Supplier: SunBoss Chemicals Corp.
Address: 8-110 West Beaver Creek Road
Richmond Hill, ON L4B 1J9

Telephone: 905-707-3433
Fax: 905-707-7393

Emergency Information: After normal hours call Chemtrec at 1-800-424-9300

2. COMPOSITION / INFORMATION ON INGREDIENTS

<table>
<thead>
<tr>
<th>Component</th>
<th>CAS No.</th>
<th>Weight %</th>
<th>UN No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Polymer 2-methyl-1,3-butadiene</td>
<td>26702-92-1</td>
<td>&gt;100</td>
<td>201-143-3</td>
</tr>
</tbody>
</table>

Symbol(s): None
Risk Phrase(s): None

3. HEALTH HAZARDS INFORMATION

EMERGENCY OVERVIEW

COMBUSTIBLE SOLID!
Small quantities may cause irritation to eyes.
Exposure to hot materials may cause thermal burns.
Avoid high temperatures and strong oxidants.
Products of thermal decomposition - toxic.

Potential Health Effects
Inhalation

No hazard at ambient temperature. At temperatures higher that 100°C the product can thermo destruct releasing isoprene vapours which can irritate the mucous membranes of the eyes and upper respiratory tract. A cough, dizziness, intoxication, drowsiness or weakness, and nausea can also occur.
Ingestion
No significant danger occurs when ingested.

Skin contact
No hazard at ambient temperature. Exposure to hot materials may cause thermal burns.

Eye Contact
Small quantities may cause mild eye irritation. Signs/symptoms can include redness, swelling, pain, tearing, and hazy vision.

4. EMERGENCY FIRST AID PROCEDURES

Inhalation
Remove victim to fresh air and keep them calm and warm.

Ingestion
No hazard. When small amounts of rubber crumbs are ingested there is no significant danger or hazardous side effects.

Skin
Remove contaminated clothing, wash skin with water, using soap. Launder clothing before reuse.

Eyes
In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Seek medical attention if irritation occurs.

Note to Physician
When heated this product could decompose to form carbon oxides – isoprene emissions are possible. Carbon oxides reduce oxygen content in the air and could have a toxic effect on cells, causing respiratory distress. Isoprene is toxic in high concentrations and can cause irritation of the mucous membranes in low concentrations and distress to the central nervous system.

5. FIRE AND EXPLOSION HAZARDS

Flammability
Inflammable. Product will burst into flames in open fire and cause combustion products of dense back smoke and toxic gas formation.

Flash Point
Not applicable

Flash Point Method
Not applicable

Extinguishing Media
Dry chemical foam, fine sprayed water or mist, carbon dioxide, asbestos or cloth - sand or earth can be used in small fires.

Auto Ignition Temperature
575 °C

Flammable Limits
Not applicable

Special Fire Fighting Procedures
Fight fire from a safe distance and from a protected location. Use water spray, foam, asbestos or sand to cool fire exposed surfaces. Do not allow run-off to enter waterways.

Special Protective Equipment
Fire fighters should wear full protective clothing, including self-contained breathing equipment. (SPI-20)
Unusual Fire and Explosion Hazards

When heated this product could decompose to form carbon oxides – isoprene emissions are possible. Carbon oxides reduce oxygen content in the air and could have a toxic effect on cells, causing respiratory distress. Isoprene is toxic in high concentrations and can cause irritation of the mucous membranes in low concentrations and distress to the central nervous system.

6. ACCIDENTAL RELEASE MEASURES

Procedures
Isolate the danger zone with the radius not less than 50 metres. Evacuate personnel from the area. Wear protective clothing and equipment specified. Observe fire safety measures. Do not smoke.

Hazardous Material
Not considered a RCRA waste

Clean up Methods
Isolate area and remove ignition sources and work with non-sparking tools. Scoop up and remove.

7. HANDLING AND STORAGE

Handling
Good hygienic practices should be observed. Work clothes should be laundered and disposable clothing should be discarded. Avoid contact with eyes, skin and clothing. Wash hands before eating, drinking, and chewing gum, using tobacco or using the toilet.

Storage
Store closed containers in a cool, dry, well-ventilated area. Store away from direct sunlight, heat and moisture. The inside temperature should not exceed 30°C. Storage together with oxidizers, acids and caustics is prohibited.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Engineering Controls
General; local exhaust ventilation as necessary to control any air contaminants to within their exposure limits during the use of this product. Eliminate ignition sources. Grounding of equipment is mandatory.

Exposure Limits
ACGIH TLV
Not available

OSHA PEL
3.5 mg/m³ (TWA)

Respiratory
Industrial filtering gas mask, type A or respirators should be used in emergency situations. Firefighting; use a Positive Pressure Demand Full Face Self Contained Breathing Apparatus. During repair use industrial filtering respirators and breathing masks.

Eyes
Wear safety glasses or goggles to protect against exposure (Recommended: 3N type).

Skin
Normal work coveralls. Launder contaminated clothing before reuse.
**Gloves**

Use gloves as a standard industrial handling procedure. All cleanable impervious glove types are acceptable.

### 9. PHYSICAL AND CHEMICAL PROPERTIES

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Appearance</strong></td>
<td>Yellow to brown solid homogenous matter.</td>
</tr>
<tr>
<td><strong>Odour</strong></td>
<td>Slight</td>
</tr>
<tr>
<td><strong>Specific Gravity</strong></td>
<td>Not applicable</td>
</tr>
<tr>
<td><strong>Density at 20 °C</strong></td>
<td>0.92 g/cm³</td>
</tr>
<tr>
<td><strong>Bulk Density</strong></td>
<td>Not applicable</td>
</tr>
<tr>
<td><strong>Solubility in water</strong></td>
<td>Insoluble in water</td>
</tr>
<tr>
<td><strong>pH</strong></td>
<td>Not applicable</td>
</tr>
<tr>
<td><strong>Other Solubility</strong></td>
<td>Soluble in hexane, toluene, benzene, chloroform and tetrachloride</td>
</tr>
<tr>
<td><strong>Melting Point</strong></td>
<td>28-40°C</td>
</tr>
<tr>
<td><strong>Ignition temperature</strong></td>
<td>300 °C</td>
</tr>
<tr>
<td><strong>Auto ignition temperature</strong></td>
<td>575 °C</td>
</tr>
<tr>
<td><strong>Mooney Viscosity MB1+4 (100°C)</strong></td>
<td>Group 1: 72-84  Group 2: 61-71</td>
</tr>
</tbody>
</table>

### 10. STABILITY AND REACTIVITY

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Chemical Stability</strong></td>
<td>Stable when stored at room temperature in closed, original container. Stable under normal conditions of handling, use and transportation. Stable if protected from heat and exposure to air. Protect from moisture.</td>
</tr>
<tr>
<td><strong>Conditions to avoid</strong></td>
<td>High temperatures</td>
</tr>
<tr>
<td><strong>Incompatibility</strong></td>
<td>Avoid strong oxidants</td>
</tr>
<tr>
<td><strong>Hazardous Polymerization</strong></td>
<td>Will not occur</td>
</tr>
<tr>
<td><strong>Hazardous Decomposition Products</strong></td>
<td>Carbon oxides, butadiene, isoprene</td>
</tr>
</tbody>
</table>

### 11. TOXICOLOGICAL INFORMATION

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Acute oral DL₀ (mg/kg)</strong></td>
<td>10000 mg/kg (Rats)</td>
</tr>
<tr>
<td><strong>Acute Dermal LD₅₀ (mg/kg)</strong></td>
<td>Not determined</td>
</tr>
<tr>
<td><strong>Acute Inhalation LC₅₀ (mg/l)</strong></td>
<td>Not determined</td>
</tr>
<tr>
<td><strong>Principle routes of Exposure</strong></td>
<td>Skin, eyes, inhalation</td>
</tr>
<tr>
<td><strong>Ingestion</strong></td>
<td>No significant danger reported when ingested.</td>
</tr>
</tbody>
</table>
Skin contact
No hazard at ambient temperature.

Inhalation
No hazard at ambient temperature. At temperatures higher than 100°C the product can thermo destruct releasing isoprene vapours which can irritate the mucous membranes of the eyes and upper respiratory tract. A cough, dizziness, intoxication, drowsiness or weakness, and nausea can also occur.

Eye Contact
Small quantities can cause mild eye irritation. Signs/symptoms can include redness, swelling, pain, tearing, and hazy vision.

Aggravated Conditions
None

Carcinogenicity
Not listed as a carcinogen

Primary Irritation Effect
Not determined

Genotoxicity
Not determined

Reproductive/Developmental Toxicity
Not determined

12. ECOLOGICAL INFORMATION

Acute Toxicity to Fish
LC₅₀ = 180 mg/l

Acute Toxicity to Daphnia
EK₅₀ = 140 mg/l 48Hr

Acute Toxicity to Algae
EK₅₀ = 1000 mg/l 96Hr

Octonal/Water Coefficient
Not determined

Chemical Fate Information
Not determined

13. DISPOSAL CONSIDERATIONS

Waste Disposal
Combustible substance – avoid heat sources. Waste should be collected and buried in a licensed landfill or burned in an approved incinerator according to federal, state, and local regulations.

Contaminated Packaging
If empty container retains product residues, all label precautions must be observed. Transport with all closures in place. Return for reuse or dispose according to national or local regulations. Dispose of container according to national or local regulations.

14. TRANSPORT INFORMATION

DOT
Not regulated

IATA
Not regulated

IMDG
Not regulated

TDG (Canada)
Not regulated
15. REGULATORY INFORMATION

THIS PRODUCT IS NOT DEFINED AS A DANGEROUS SUBSTANCE OR PREPARATION ACCORDING TO THE COUNCIL DIRECTIVE 67/548/EEC AND ITS VARIOUS AMENDMENTS AND ADAPTATIONS.

Risk Phrase(s)  None
Safety Phrase(s)  S16 – Keep away from sources of ignition – No smoking.
                 S41 – In case of fire and/or explosion do not breathe fumes.
                 S43 – In case of fire use water or powdered mixtures
                 S47 – Keep at temperatures not exceeding 40°C

FDA Status 21 CFR  Not regulated for use in food contact applications under 21 CRF
TSCA  Not determined
Canadian DSL  Not determined
EINECS/ELINCS  Not determined

US Regulations
SARA Section 302  None
SARA 311/312 Hazard Categories  None
SARA 313 Chemical  None
RCRA Status  Not a RCRA waste

Canadian Regulations
WHMIS Hazard Class  Not available
NPRI  Not available

16. HAZARD RATING SYSTEM

<table>
<thead>
<tr>
<th>NFPA Rating (Scale 0-4)</th>
<th>HEALTH</th>
<th>FIRE</th>
<th>REACTIVITY</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 - Minimal Hazard</td>
<td>0</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>1 - Slight Hazard</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2 - Moderate Hazard</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3 - Serious Hazard</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4 - Severe Hazard</td>
<td></td>
<td></td>
<td></td>
</tr>
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</table>

<table>
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<tr>
<th>HMIS Classification (Scale 0-4)</th>
<th>HEALTH</th>
<th>FIRE</th>
<th>REACTIVITY</th>
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17. OTHER INFORMATION

Although reasonable precautions have been taken in the preparation of the data contained herein, it is offered solely for your information, consideration and investigation. SunBoss Chemicals Corp. extends no warranty and assumes no responsibility for the accuracy or sufficiency of the content and expressly disclaims all liability for reliance thereon. This material safety data sheet provides guidelines for the safe handling of this product; it does not and cannot advise on all possible situations, therefore, your specific use of this product should be evaluated to determine if additional precautions are required. It is the responsibility of the user to comply with all Federal, State and local laws and regulations. Individuals exposed to this product should read and understand this information and be provided pertinent training prior to working with this product.

Abbreviations and Acronyms
ACGIH: American Conference of Governmental Industrial Hygienists Inc.
CAS: Chemical Abstracts Service (Division of American Chemical Society)
DOT: Department of Transportation (USA)
EINECS: European Inventory of Existing Commercial Chemical Substances
HMIS: Hazardous Materials Identification System (USA)
IARC: Internal Agency for Research on Cancer
IATA: International Air Transport Association
IMDG: International Marine Code for Dangerous Goods
DLₐ: Lethal dose to 100% of test population
LD₃₀: Lethal Dose Medium
LC₅₀: Lethal Concentration Medium
EC₅₀: Effective Concentration Medium
NIOSH: National Institute for Occupational Safety and Health
NFPA: National Fire Protection Association (USA)
NPRI: National Pollutant Release Inventory (Canada)
NTP: National Toxicology Program
OSHA: Occupational Safety and Health Administration (USA)
TDG: Transportation of Dangerous Goods (Canada)
TLV: Threshold Limit Value
TWA: Time Weighted Average
WHMIS: Workplace Hazardous Materials Information Systems (Canada)

18. REVISION DATE

Revision number: 2
Date of Issue: October 1, 2014
Changes: Number and format of headings changed; Updates to Sections 1: Identification of Substance - EC information added; 2: Health Hazards Information; 8: Specific Personal Protection Equipment - pictograms added; 14: Transport information - updated; 15: Regulatory information - EC information added; 16: Hazard Rating System - table added; 17: Abbreviations and Acronyms added