



Safety Data Sheet (SDS)

Revision / Review Date: 5/30/15

1. Chemical Product and Company Identification

Product Name:	SKI-3S
Distributed By:	HB Chemical 1665 Enterprise Parkway Twinsburg Oh 44087 Phone - 330-920-8023
SDS Prepared By (w Suppliers Input):	HB Chemical
Chemical Name / Family:	Cis - 1,4 Polyisoprene / Hydrocarbon Polymer
Technical Name:	Polyisoprene, Cis-Isoprene Synthetic Rubber SKI 3S
Substance Name:	Poly (-2methyl-1,3-butadiene) Cis-1,4-polyisoprene Polyisoprene, cis
Molecular Formula:	[C ₅ H ₈] _n
Molecular Weight via GPC, Mn:	Not available
Product Use:	Synthetic Polymers, Rubber is Used in the production of tires, mechanical rubber goods (conveyor belts, hosing's, moulded and not moulded parts, rubber shoes, hoses, electro insulated rubber). Cis-isoprene synthetic rubber is used instead of natural one.
Uses advise against:	Not intended for the production of mechanical rubber goods used in food and medicine.
Exposure scenario(s):	Not required for rubbers (polymers).
OSHA Status:	Non Hazardous
CAS No:	9003-31-3
EC No:	Not available
REACH registration number Isoprene (monomer):	Not available

For emergency health, safety, and environmental information, calls 330-920-8023

For emergency transportation information, in the United States: call CHEMTREC at 800-424-9300

2. Hazard(s) Identification

Registration No. (assigned under Article 20 (3) of Regulation (EC) No. 1907/2006):

Rubbers (polymers) are not subject to registration in accordance with provisions of Article 2 (9) of REACH Regulation. Monomer substance (isoprene CAS No. 78-79-5), EC N°201-143- 3) is registered in accordance with provisions of Article 6 (3) of Regulation (EC) N° 1907/2006. Registration Number 01-2119480438-30-0000.

Classification under Regulation (EC) No. 1272/2008:

Annex IV, table 3.1 (according to GHS criteria): Not listed.

<u>Annex VI, table 3.2 (according to the DSD/DPD Criteria of annex I of Directive 67/548/EEC):</u>	Not listed.
<u>Self-classification under regulation (EC) No. 1272/2008 (according to GHS):</u>	For physical-chemical properties: Not classified. For health hazards: Not classified. For environmental hazard: Not classified.
<u>Labelling according to CLP Regulation (EC) 1272/2008:</u> <u>According to GHS criteria:</u>	Not required, Not listed.
<u>Human Health Hazards:</u>	Under normal temperature and pressure the product represents no direct human health hazard. Under high temperatures it is exposed to destruction with the emission of isoprene vapors and its compounds.
<u>Most important symptoms and effects, both acute and delayed Symptoms:</u>	Absent.
<u>Indication of any immediate medical attention and special treatment needed: Acute exposure:</u>	Absent. If necessary for medical treatment refer to medical professionals.
<u>Hazard description:</u>	The substance is nonhazardous, nontoxic. No adverse health effects at room temperature.
<u>Classification:</u>	This product is not hazardous as defined in Regulations 67/548/Ec, 1999/45/EC and resolutions (EC) n° 1272/2008 (CLP).
<u>Information on special hazards for humans and environment:</u>	No physical and chemical impact: None.
<u>Safety phrases:</u>	S61 Avoid entry into the environment. S 16 Keep away from sources of ignition - no smoking. S 43.2 In case of fire use water or powder mixtures.
<u>ANNEX I OF DIRECTIVE 67/548/EEC:</u> <u>Physical/Chemical Hazards:</u>	None.
<u>Health Hazards:</u>	None.
<u>Environmental hazards:</u>	None.
<u>EU CLP 2008:</u>	Physical / Chemical Hazards: None.
<u>Health Hazards:</u>	None.
<u>Environmental hazards:</u>	None.
<u>Specific Hazard:</u>	No significant health hazard in normal industrial use conditions.

Contact with melted/heated product may cause thermal burns. Processing vapors, which can irritate eyes and respiratory tract, may form when product is heated to high temperatures. Combustible solid. Products of thermal decomposition – toxic.

Warning:

None.

Emergency Overview:

If the material is exposed to open heat (excessive) or flame it will burn. There is no applicable odor.

Signs and Symptoms of Exposure:

Not available.

Primary Routes of Entry:

Skin (Dermal), No other exposure risks except with inhalation of burning material. No long term exposure risks.

Health Hazard- Acute and Chronic:

Not available.

Medical Conditions Generally Aggravated by Exposure:

None Known.

Eye Contact:

For open systems where the contact is most probable the particulates may scratch eye surfaces / cause mechanical irritation.

Skin Contact:

Exposure to hot materials may cause thermal burns.

Ingestion:

Entry inside is unlikely. No hazard when swallowed.

Inhalation:

Rubber does not contain highly volatile fractions and there are no pollutant emissions during storage. Polyisoprene has no local irritating effect on the gastrointestinal tract when inhaled, conjunctiva, skin-restorative and sensitizing effect.

NFRA Hazard Ratings:

Health- 1, Flammability - 1, Reactivity - 0

HMIS Hazard Ratings:

Health- 0, Flammability - 1, Reactivity - 0

HMIS limitation statement:

The HMIS hazard ratings numbers are meant to give a quick indication of the relative hazards associated with the product. All of the information contained in the SDS should be consulted to assist with the safe handling of this material.

Principal Hazardous Components:

Not available.

3. Composition / Information on Ingredients

Grade SKI-3S is also a synthetic rubber, consisting of at least 98% polymerised isoprene. It contains 0.5-1.3% antioxidant and 0.6-1.4% lubricant (calciumdistearate, EC 216-472-8, CAS 1592-23-0).

Component	Conc. %	CAS / EC #	Classification 67/548/EEC and EU CLP 2008
Polyisoprene	≥98	9003-31-0/ none	none

The product does not contain impurities or additives that could affect product's labelling and classification according to 67/548/EEC and EU CLP 2008.

4. First Aid Measures

<u>Inhalation:</u>	Move an exposed person to fresh air at once. Keep warm and at rest. If there is respiratory distress give oxygen. If respiration stops or shows signs of failing, apply artificial respiration. Get medical attention.
<u>Eyes:</u>	Produces mechanical irritation. Remove contact lenses. Rinse with plenty of water for several minutes. If necessary get medical attention.
<u>Skin:</u>	Rinse skin with water and soap. If necessary get medical attention.
<u>Ingestion:</u>	Wash out mouth with water and give plenty of water to drink, provided person is conscious. Do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. If vomiting occurs naturally, have the exposed person lean forward. Get medical aid.

5. Fire-Fighting Measures

<u>Suitable Extinguishing Media:</u>	Use water, mechanical foam, dry chemical, carbon dioxide and powder, asbestos cloth, sand.
<u>Special Fire Fighting Procedures:</u>	The substance is flammable. Enclose the fire area. Extinguish from the maximal distance. Extinguish gases and vapors produced during burning with water spray. After putting out the fire cool the product with water to prevent self-ignition. Apply special protective clothes, shoes, personal eye protection. For respiratory protection use self-contained breathing apparatus with forced air supply. Keep away from sources of ignition - no smoking. When exposed to thermal decomposition products may be a health risk, wear self-contained breathing apparatus. Open flames can emit acid fumes and/or smoke.
<u>Hazardous Combustion Products:</u>	Combustion generates irritating and toxic fumes.
<u>Unusual fire and explosion hazards:</u>	Combustible solid. Burns with the emission of heavy black fume and toxic gases (carbon dioxide, soot). When burned the product softens and spreads increasing the fire area.

6. Accidental Release Measures

<u>Steps to be taken in case material is spilled:</u>	Special precautions are required. In case of accidental release of the product comply with fire safety measures. Collect into containers for reuse or disposal. Do not throw into refuse collection places. Sweep spilled substance into containers. Avoid generating dusty conditions and provide ventilation. All equipment must be grounded.
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Environmental Disposal Information:

Take precautionary measures against discharges into the environment.

Waste Disposal:

Dispose of according to local/state regulations.

7. Handling and Storage:

Empty Containers:

Not available.

Precautions to be taken in handling:

Use supply and exhaust ventilation, grounded equipment to protect from static electricity. Comply with fire safety measure. No open flames and sparks, avoid heating over auto-ignition temperature. Do not eat, drink and smoke during work. Wash hands before eating. At the end of the work take a shower, change clothes. Wash thoroughly after handling. Avoid contact with eyes and skin. Do not ingest or inhale. Minimize dust generation and accumulation. Remove all sources of ignition. All equipment must be grounded.

Storage:

Store in closed package, in covered cool, well-ventilated storehouses. Avoid direct sunlight and atmospheric precipitation. Maximal amount of containers in a stack – no more than three. The height of packing in paper bags – no more than 1, 2 m. When stockpiling, keep breaks between rows. Suitable for general storage areas. Isolate from incompatible materials.

Substances, incompatible in joint Storage:

Strong oxidizers, combustible and self-inflammable substances concentrated acids, alkali and alkali metals.

8. Exposure Controls / Personal Protection

Occupational Exposure Limit values:

Harmonized occupational exposure limit values have not been established in EU and at the international level. The product by its structure is analogous to the natural rubber and is a high molecule polymers isoprene with linear structure of the molecular chain that no free monomer. Technological additives and mixtures are present in the product as substances bound into or onto matrix. Nevertheless under industrial use conditions at the stages of high temperature processing low molecule polymer compounds of isoprene can be emitted. The intensity of emission depends on the processing conditions (temperature regimes, mechanical mixing processes). International values of safe exposure level for most similar structural analogue – monomer isoprene are summarized below to make safe exposure assessment of low molecule compounds of isoprene.

Substance	Control parameter	Standard	Data source	Comment
Isoprene	TWA (8-h)	2 ppm (5.58 mg/m3)	US, AIHA	No harmonized occupational exposure limit values are established for this substance EU. The stated safe exposure limit values are not legally binding and referred here for recommendation purpose only. Consult the current national/regional/local legislation to specify occupational Exposure Limit.

Engineering controls and good work practices:

Technical measures in the work practice shall provide constant and efficient disposal of the substances emitted during thermoprocessing and compliance of the working place with the requirements established by the national/regional/local standards. Premises designated for work with the product shall be supplied with the supply-exhaust ventilation corresponding to the industrial work conditions. Depending on the technological equipment peculiarities of the stages of thermoprocessing local exhaust ventilation may be required. Periodic environmental control at workplaces shall be carried out in accordance with the current national/regional/local legislation.

Personal protective equipment:

The choice of personal protective equipment shall be based on the conditions of product processing and common environmental parameters in the working area. Personal protective equipment shall comply with national/regional/local legislation requirements.

Engineering Controls:

When material is heated observe Occupational Exposure limits of 3 mg/M3.

Respiratory Protection:

Wear positive pressure self-contained breathing apparatus if warranted by workplace conditions.

Ventilation:

Provide adequate ventilation.

Hand Protection:

Wear approved protective gloves.

Eye Protection:

Wear approved safety goggles.

Skin and Body Protection:

Wear protective clothing. Cotton clothing, closed shoes.

Hygiene Facilities:

Do not eat, drink and smoke during work. The working place should be kept in adequate sanitary conditions. Wash at the end

of each work shift and before eating, drinking, smoking or using the toilet.

Emission sources:

Ventilation releases.

Summary of RMM relevant to environment:

Periodic control for emission sources shall be carried out in accordance with the current national/regional/local legislation.

9. Physical and Chemical Properties

Physical Form:

Solid (Rubber Bales)

Appearance & Odor:

White, Light Grey, Yellow, Amber / Low Odor

Specific Gravity:

0.90-0.92

Softening Point, R&B:

Not available.

Solubility in Water:

Insoluble in alcohols, ketones.

Flash Point, TAG CC F:

275°C

Percent Volatiles (by weight):

Not available.

Relative density:

0.9-0.92 g/cm³

Evaporation Rate (Water ~ I):

Not available.

Vapor Pressure (mm Hg):

Not available.

Solubility in other solvents:

Soluble in chloroform, carbon tetrachloride, cyclohexane, carbonsulphide, benzene, monochlorobenzene, toluene.

Melting Point:

28-40 °C

Glass:

Transition temperature is minus 70° C

Vapor Density (Air ~ I):

Not available.

Boiling Point (°F) Initial:

Not available.

Decomposition Temperatures:

290 °C

Auto ignition Temperature, °C:

325-340°C

Flammable Limits, %(V):

Not available.

10. Stability and Reactivity

Reactivity:

Under normal conditions reactivity is not observed.

Stability:

Stable under normal temperature and pressure and if storage, handling conditions are complied with.

<u>Incompatibility (Materials to Avoid):</u>	Strong oxidizers, combustible and self-inflammable substances concentrated acids and alkalis, alkali metals, strong acids, and organic solvents.
<u>Conditions to Avoid:</u>	Incompatible substances, high temperatures, open flame, direct sunlight. Incompatible materials, dust generation.
<u>Hazardous Polymerization:</u>	Hazardous polymerization will not occur.
<u>Hazardous Decomposition Products:</u>	Carbon Monoxide and Carbon dioxide.

11. Toxicological Information

This material is not listed as a carcinogen or potential carcinogen by NTP, IARC, or OSHA.

OSHA Permissible Exposure Limit: Not available.

ACGIH Threshold Limit Value: Not available.

General characteristics of the product: Complete toxicity testing of the product has not been made. The cases of acute poisoning during industrial use are not described. Under normal temperature and pressure the product does not affect the human health.

Inhalation Irritation: Polyisoprene has no local irritating effect on the gastrointestinal tract when inhaled, conjunctiva, skin-restorative and sensitizing effect.

Skin irritation: There is no irritant effect on skin.

Eye irritation: There is no irritant effect on eyes.

12. Ecological Information

General characteristics of the product: The special assessment of the potential negative influence of the product on the environment has not been made. Under normal conditions rubber is expected to represent no direct environment hazard.

Eco toxicity: The product is poorly biodegradable but does not pose a hazard to the environment.

Water Hazard Classification: According to the German VwVwS: WGK- 0 (not classified).

13. Disposal Considerations

Disposal: Product disposal shall occur only in compliance with current national/regional/local legislation requirements.

<u>Disposal of containers:</u>	Place into a suitable closed container for disposal. Refer to national/regional/local legislation in force on package disposal conditions.
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14. Transport Information

<u>D.O.T. Shipping Name:</u>	Not classified.
<u>Air - ICAO (international Civil Aviation Organization):</u>	Not classified.
<u>ADR/RID:</u>	Not classified.
<u>Sea - IMDG (International Maritime Dangerous Goods):</u>	Not classified.
<u>IATA:</u>	Not classified.
<u>UN No. :</u>	Not assigned.
<u>UN Proper Shipping Name:</u>	Not applicable.
<u>UN Class:</u>	Not assigned.
<u>UN Packing Group:</u>	Not applicable.
<u>Environmental hazards:</u>	Not classified.
<u>Special precaution for users:</u>	A number of restrictions may apply to materials subject to local/national/regional classifications requirements. Please refer to the appropriate regulation for specific details regarding classification requirements and restrictions.
<u>Transport in bulk according to Annex II of MARPOL 73/78 and IBC Code :</u>	No data are available.

15. Regulatory Information

All components of this material are on the TSCA Inventory.

All components of this material are on the Canadian DSL.

Export and Import of Dangerous Chemicals (regulation (EC) No. 689/2008) Information:

Poly(2-methyl-1,3butadiene) is not listed in the Annex I of regulation (EC) No 689/2008.

Regulation (EC) No. 1272/2008:

Poly(2-methyl-1,3butadiene) is not listed in the Annex VI (tables 3.1 and 3.2) to CLP Regulation.

Regulation REACH (EC) No. 1907/2006:

Polymers are not subject to registration in accordance with provisions of Article 2 (9) of REACH Regulation. Monomer substance (isoprene CAS No. 78-79-5, EC N°201-143-3) is registered in accordance with provisions of Article 6 (3) of Regulation.

<u>CSA:</u>	Chemical Safety Assessment is not required for polymers in accordance with provisions of REACH Regulation.
<u>Monomer (isoprene):</u>	Chemical Safety Assessment has been carried out for this chemical in accordance with provisions of Reach Regulation.
<u>UK REGULATORY REFERENCES:</u>	Chemicals (Hazard Information & Packaging) Regulations. The Control of Substances Hazardous to Health Regulations 1988. Health and Safety at Work Act 1974.
<u>ENVIRONMENTAL LISTING:</u>	Control of Pollution Act 1974.
<u>EU DIRECTIVES:</u>	System of specific information relating to Dangerous Preparations. 2001/58/EC. Dangerous Preparations Directive 1999/45/EC. Directive 67/548/EEC on the approximation of the laws, regulations and administrative provisions relating to the classification, packaging and labelling of dangerous substances.
<u>STATUTORY INSTRUMENTS:</u>	Notification of New Substances Regulations (NONS) 1993. The Export and Import of Dangerous Chemicals Regulations 2005 number 928.
<u>APPROVED CODE OF PRACTICE:</u>	Classification and Labelling of Substances and Preparations Dangerous for Supply (EU 2001/59/EC). Safety Data Sheets for Substances and Preparations (REACH).
<u>GUIDANCE NOTES:</u>	Workplace Exposure Limits EH40. Introduction to Local Exhaust Ventilation HS(G)37. CHIP for everyone HSG(108).
<u>NATIONAL REGULATIONS:</u>	The Chemicals (Hazard Information and Packaging for Supply) Regulations 2002. No. 1689. Workplace Exposure Limits 2005 (EH40). The Carriage of Dangerous Goods and use of transportable pressure equipment regulations 2004. Control of Substances hazardous to health regulations 2002 (as amended).
<u>NATIONAL REGULATIONS (GERMANY):</u>	Major Accident Hazard Legislation 82/501/EWG.
<u>Governing Regulations (USA):</u>	This material does not contain SARA S-313 Chemicals.
<u>WHMIS (Canada):</u>	None.

16. Other Information

The above information has been compiled from what we believe to be credible sources. To our knowledge the information is accurate and reliable, however, it is not guaranteed. Any recommendations issued by HB Chemical personnel or literature is derived from experience and by no means should be taken as fact or construed as a recommendation to violate of any law, regulation or patent. It is the user's responsibility to determine the suitability of any HB supplied material in their application. The individual conditions of each customer are well outside of our control and we cannot be held liable for its functionality and use. Please contact our office should you need specific information beyond what is supplied above. As with all Chemical usage safety precautions beyond the stated are highly recommended.