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Material Safety Data Sheet
Vulcanised Natural Rubber
(38-82 duro)

Section 1: Material Identification and Use

Material Name	All Natural Rubber Grades (TSR & SMR)
Source	Asian Rubber Plantations
Chemical Name	Cis 1,4 Polyisoprene (CAS No. 9003-31-0)
Chemical Family	Diene
Chemical Formula	$(C_5H_8)_n$
Molecular Weight	$C_{a\ 10}$ 6
Material Use	Engineered Rubber Products
Supplier's Name	Vulcanite Pty Ltd
Street Address	Unit N1, 391 Park Road, Regents Park, NSW, 2143, Australia
Telephone	+61 2 8889 3999 (08:00 – 17:00 hours)

Section 2: Hazards Identification

NOT CLASSIFIED AS HAZARDOUS ACCORDING TO CRITERIA OF WORKSAFE AUSTRALIA

Flammable and does not self-extinguish.

Products of combustion are low toxicity but may cause irritation to eyes or if inhaled. Carbon monoxide and carbon dioxide are generated when burnt.

Not recommended for use with food stuffs or pharmaceutical goods.

Section 3: Composition & Ingredients

(a) Non-hazardous Ingredients

Natural Rubber (polyisoprene) polymer and Carbon Black reinforced.

Stearic acid and zinc oxide activation.

Amine derivative antioxidants and antiozonants.

Organic accelerators in combination with sulphur for conventional curing.

(b) Hazardous Ingredients

None

Section 4: First Aid Measures

Skin	In the event of skin contact with hot compound or decomposition products, immediately cool skin rapidly with cold water and wash off with soap and water.
Eye	In the event of eye contact with fumes, irrigate with plenty of water
Inhalation	Remove to fresh air if exposed to fumes, decomposition products or high temperature emitted vapours. Seek medical treatment in cases of extreme exposure.
Ingestion	Seek medical assistance in event product consumed.
General Advice	Handling of solid rubber is not a serious health hazard and does not require special first aid facilities. If in doubt, seek medical assistance

Section 5: Fire and Explosion Hazard of Material

Flammability	Yes	**Flammability Conditions**	Heat; Oxidation
Extinguishing Media	Water, foam, carbon dioxide, dry chemical		
Flashpoint	> 250°C	**Auto Ignition Temp.**	> 250°C
Upper Explosion Limit	unknown	**Lower Explosion Limit**	unknown
Rate of Burning	varies	**TDG Flammability Classification**	unknown
Explosive Power	unknown	**Sensitivity to Static Discharge**	unknown
Hazardous Combustion Products	Carbon Monoxide and Carbon Dioxide. Complex fumes derive from decomposition products of organic accelerators, antioxidants, activators, plasticizers and process aids.		
Special Protective Precautions	Rubber fire is difficult to extinguish since the heat may soften the rubber and burning material liquefies and may spread fire.		
Equipment for Fire Fighters	Wear a self-contained breathing apparatus with full-face piece operated in pressure demand or positive pressure mode, and protective suit.		

Section 6: Accidental Release Measures

Normal manual handling with mechanical assistance if necessary.

Personal protective equipment should be worn as per Section 8.

Section 7: Handling & Storage

Engineering Controls	Ventilate during moulding and curing.
Handling Procedure & Equipment	When moulding, extruding and curing natural rubber compounds, operate at temperatures as low as practicable, in consideration of hazards and economic throughput. Sufficient local exhaust ventilation must be provided to ensure safe working. Do not consume food when handling compound, avoid inhalation of curing fume and vapours.
Storage Requirements	Store in a cool place (<25°C). Avoid heat, direct sunlight and contact with oxidation catalysts, oils, acids and other chemicals. Store away from sources of heat or ignition.

Section 8: Exposure Controls & Personal Protection

Skin Protection	Gloves should be worn at all times, but especially if handling hot compound.
Eye Protection	May be necessary if particles of rubber are generated during processing, or if fumes are present.
Respiratory Protection	Volatile materials may be evolved from rubber compounds during cure and, in general, the higher the temperature, the more concentrated are the fumes in the surrounding atmosphere. The composition of rubber fumes is complex but emissions from Natural Rubber compounds are known to contain Carbon Dioxide, Water, and traces of Nitrosamines and Polycyclic Aromatic Hydrocarbons from some accelerators and petroleum based oils and resins. The C.O.S.H.H. regulations of 1988 state that rubber fumes be contained within a maximum exposure level, M.E.L., of 0.75 mg/m^3 measured by personal operator sampling, and expressed as an 8 hour time weighted average. This limit has now been reduced to 0.6 mg/m^3 since January 1990. When mixing, moulding, extruding and curing natural rubber compounds, operate at temperatures as low as is reasonably compatible with economic throughput. Sufficient local exhaust ventilation must be provided at processing centres to ensure compliance with the regulations and the protection and safe working or process operators.

Section 9: Physical & Chemical Properties

Physical State	Solid	**Odour**	Slight (rubber)
Appearance	Black	**Specific Gravity**	1.01 – 1.14
Odour Threshold	Not Relevant	**pH**	Not Relevant
Evaporative Rate	Not Relevant	**% Volatile (by Volume)**	<0.5
Vapour Pressure	Not Relevant	**Vapour Density**	Not Relevant
Boiling Point	Not Relevant	**Freezing Point**	Not Relevant
Viscosity	Solid @ 25°C	**Water/Oil Distribution**	N/A
Solubility	Insoluble in water; soluble in petroleum based solvents		

Section 10: Stability & Reactivity

Chemical Stability	Product is stable in cool well ventilated conditions up to 70°C
Incompatibility with Other Substances	Heavy metals (e.g., copper) act as pre-oxidants
Reactivity and Under What Conditions	Starts to decompose above 220°C, finally emitting vapours which may be toxic and flammable at temperatures > 300°C
Hazardous Decomposition Products	Carbon monoxide, aliphatic and aromatic oils and tars, coupled with some sulphur, and also amine, based organic compounds.

Section 11: Toxicological Properties of Natural Rubber			
Route of Entry	Ingestion		
Effects of Accute Exposure	Unknown, but avoid ingestion		
Effects of Chronic Exposure	Unknown, but avoid ingestion		
LD_{50} (Route)	Unknown	**Irritancy**	Unknown
LD_{50} (Species)	Unknown	**Exposure Limits**	Unknown
Sensitisation	Unknown	**Synergistic Materials**	Unknown

Section 12: Ecological Information	
Ecotoxicity	No data available.
Persistence and Degradability	No information available, but expected to be persistent (not readily degradable)
Mobility	Insoluble solid – not mobile.

Section 13: Disposal	
Methods and Materials for Containment and Clean Up	Sweep up material and dispose of appropriately.
Waste Disposal	Dispose of by landfill or incineration, according to local regulations. Reclaim

Section 14: Transport Information

Non-hazardous for transport – no labelling required.
Not classified for DOT, IATA or IMDG.

Section 15: Regulatory Information

None required.

Section 16: Other Information

Prepared by	Vulcanite Pty Ltd
Phone Number	+61 2 8889 3999
Date Reviewed	September 21, 2021

DISCLAIMER

This material Safety Data Sheet has been developed according to NOHSC guidelines. It is believed that the information given in this MSDS is accurate at this date. The information and recommendations made herein are offered in good faith and without acceptance of responsibility for its accuracy. VULCANITE PTY LTD recommends that all users of this product satisfy themselves that it is used in an appropriate manner and is suitable for the use intended. No representations or warranties of any kind, expressed or implied, are given.