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MATERIAL SAFETY DATA SHEET (MSDS)

PRODUCT AND COMPANY IDENTIFICATION

Product Form Substance
Product Name Expectra Mulch
Product Identifier Recycled rubber truck tyre (SBR).

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

Relevant identified uses: Crumbed rubber is used as ground cover under playground equipment, and as an artificial grass surface infill or in a wet pour mix for running tracks and playgrounds or in landscaping.

Uses advised against: No additional information available

HAZARDS IDENTIFICATION

Overview: Products have a mild rubber odor and if ignited by excessive heat or open flame will burn. Smoke released will contain noxious and acrid compounds of sulphur. During fire conditions, smoke irritates the eyes and respiratory tract. SBR powder or dust may form explosive concentrations when mixed with sufficient quantities of oxygen.

Potential Health Effects:

Inhalation: Not a likely route of exposure.
Skin contact: May cause slight irritation.
Eye contact: Can cause mechanical irritation.
Ingestion: Not a likely route of exposure.

PROPERTIES

| CHEMICAL NAME | CAS No. | CONCENTRATION |
|--|------------|---------------|
| Natural rubber | 9006-04-6 | 60-100 |
| Mineral oil, petroleum extracts, heavy paraffinic distillate solvent | 64742-04-7 | |
| Talc, Containing No Asbestos or Crystalline Silica | 14807-96-6 | |
| Zinc oxide | 1314-13-2 | |
| Sulfur | 7704-34-9 | |

FIRST AID MEASURES

First Aid Procedures

Inhalation: Relocate to fresh air. Drink water to clear throat. Blow nose to remove dust.

Skin Contact: Rinse thoroughly with lukewarm, gently flowing water and non-abrasive soap. If irritation occurs and/or persists, seek medical attention.

Eye Contact: Do not rub eyes as particles may scratch the eye. Immediately rinse open eye with lukewarm, gently running water for at least 5-15 minutes. Use saline solution if available and take care not to contaminate unaffected eye. If eye irritation persists, seek medical attention.

Ingestion: Only seek immediate medical help if large quantities have been ingested. NEVER give anything by mouth if victim is rapidly losing consciousness, is unconscious or convulsing. First Aid

Comments: This product will release toxic and irritating smoke if ignited by excessive heat or open flame. Smoke may contain noxious compounds and acrid compounds of sulphur. During fire conditions, smoke is irritating to the eyes and respiratory tract. Powder or dust may form explosive concentrations when mixed in sufficient quantities of air.

Note to Physicians: This product is a mechanical irritant and is not expected to have any chronic effects for a single exposure. Treat exposure by removing source of irritation and treat symptomatically.



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FIRE FIGHTING MEASURES

Flammable Properties: Will burn when exposed to excessive heat or flame.
Suitable Extinguishing Media: Carbon dioxide, foam, sand, water (recommended).
Specific Hazards Arising from the Chemical: Unidentified hydrocarbons in smoke, oxides of sulphur and carbon.
Protective Equipment and Precautions: Fight fire from upwind.
During combustion, irritating and/or toxic gases and aerosols from decomposition products may be present. Move containers from fire area or cool with water spray, if possible. Firefighters must wear a full-body encapsulating chemical protective suit with positive-pressure self-contained breathing apparatus (SCBA).

ACCIDENTAL RELEASE MEASURES

Personal Precautions: Use the Personal Protective Equipment (PPE). Environmental Precautions: Use the PPE. Methods for Containment and Clean-up: If release of ground rubber results in the formation of dust, remove all sources of heat and/or ignition. Provide immediate and adequate ventilation. Contain spilled material for disposal or recycling. If sweeping is necessary, use dust suppression such as water. Do not dry sweep dust accumulation or use compressed air for clean-up. Material may be re-used in process if clean, otherwise collect in approved containers and dispose accordingly.

HANDLING AND STORAGE

Handling: When handling product, minimize dust formation. Keep away from sources of heat, flame or ignition. Add water to any spilled product before attempting a clean-up. Wash thoroughly after handling and launder contaminated clothing before re-use. Storage: Ground all transfer and storage equipment and use only non-sparking tools and equipment. Store in a cool, dry, well-ventilated area away from ignition sources/sparks.

EXPOSURE CONTROLS/PERSONAL PROTECTION

Exposure Guideline Comments: Natural Rubber: • ACGIH® = American Conference of Governmental Industrial Hygienists. TLV® = Threshold Limit Value. TWA = Time-Weighted Average. 10 mg/m³ (total dust) • OSHA = Occupational Safety and Health Administration. PEL = Permissible Exposure Limits. TWA = Time-Weighted Average. 15 mg/m³ • (mineral oil, petroleum extracts, heavy paraffinic distillate solvent) • OSHA = Occupational Safety and Health Administration. PEL = Permissible Exposure Limits. TLV® = Threshold Limit Value. 5 mg/m³ (mist) Carbon Black: • ACGIH® = American Conference of Governmental Industrial Hygienists. TLV® = Threshold • Limit Value. TWA = Time-Weighted Average. 3.5 mg/m³ • OSHA = Occupational Safety and Health Administration. PEL = Permissible Exposure Limits. TWA = Time-Weighted Average. 3.5 mg/m³ Zinc Oxide • ACGIH® = American Conference of Governmental Industrial Hygienists. TLV® = Threshold Limit Value. TWA = Time-Weighted Average. 10 mg/m³ • OSHA = Occupational Safety and Health Administration. PEL = Permissible Exposure Limits. TWA = Time-Weighted Average. 5 mg/m³ (total dust) Sulphur: • ACGIH® = American Conference of Governmental Industrial Hygienists. TLV® = Threshold Limit Value. TWA = Time-Weighted Average. 10 mg/m³ . Engineering Controls: • Use general or local exhaust ventilation to maintain exposure below the exposure limits. If heated during processing, provide adequate non-sparking ventilation to minimize fumes in the workplace. Personal Protective Equipment (PPE) Eye/Face Protection: Wear chemical safety glasses with side shields when contact is possible. Contact lenses are not recommended. Ensure an eyewash station and safety shower are available in immediate work area. Skin Protection: As supplied, the extender oil is bound in a polymer matrix and exposure to skin should only be trace quantities or less. If prolonged contact is involved, care should be taken to minimize exposure by preventing contact with skin. Impervious footwear is required by work site rules. Frequent washing of exposed areas is recommended. Safety shower is recommended in the workplace area.

PHYSICAL AND CHEMICAL PROPERTIES

| | | | |
|-------------------|-------------------------|--|----------------|
| Physical State | Solid | Melting Point | Not available |
| Appearance | Black/coloured Granules | Freezing Point | Not available |
| Particle Size | Not available | Relative Density [water = 1] | 0.95 - 1.40 |
| Odour | Mild Rubber | Bulk Density | Not available |
| Odour Threshold | Not available | Solubility in Water | Insoluble |
| Molecular Formula | Not available | Solubility in Other Liquids | Not available |
| Molecular Weight | Not available | pH | Not applicable |
| Boiling Point | Not available | Partition Coefficient, n-Octanol/Water | Not available |

| | | | |
|--------------------------------|----------------|---------------------------------|----------------|
| Decomposition Temperature | Not available | Evaporation Rate | Not applicable |
| Viscosity-Kinematic | Not available | Flash Point | Not applicable |
| Surface Tension | Not available | Lower Flammable/Explosive Limit | ~ 25% |
| Vapour Pressure | Not applicable | Upper Flammable/Explosive Limit | Not applicable |
| Vapour Pressure at 50 deg C | Not available | Auto-ignition Temperature | 370 - 450°C |
| Saturated Vapour Concentration | Not available | Electrical Conductivity | Not available |
| Critical Temperature | Not available | | |
| Vapour Density [air = 1] | Not applicable | | |

STABILITY AND REACTIVITY

Chemical Stability: This product is stable and is not reactive Conditions to Avoid: Avoid strong oxidizing agents Incompatible Materials Strong oxidizing agents Hazardous Decomposition Products Carbon monoxide, carbon dioxide, hydrogen, hydrogen sulphide, pentadiene, benzene, xylene, carbon, ash, oxides of sulphur and nitrogen, zinc oxide, and numerous unidentified organic compounds.

TOXICOLOGICAL INFORMATION

General Comments • This product is a mechanical irritant and is not expected to have any chronic effects for a single exposure. • ACGIH TLV-TWA 0.0001 mg/m³ (inhalable, skin) DTLVS* The Threshold Limit Values (TLVs) and Biological Exposure Indices (BEIs) booklet issues by American Conference of Governmental Industrial Hygienists (ACGIH), Cincinnati, OH, 1996 Volume(issue)/page/year: TLV/BEI,2010 Skin Irritation/Corrosion Not a skin irritant. There is evidence that contact with ground rubber may aggravate pre-existing dermatitis. Eye Irritation/Corrosion General irritation occurs when a foreign object contacts with the eye. Redness, itchiness and tearing may result. Effects of Short-Term (Acute) Exposure Inhalation Based on animal tests. Inhalation of fine particles may cause mild irritation of the respiratory tract. Fumes generated during processing may be mildly irritating to the eyes and respiratory tract. Ingestion The acute effects of ingestion of rubber have not been determined. Effects of Long-Term (Chronic) Exposure Prolonged contact with untreated naphthenic/aromatic oils caused skin cancer in mice when applied over a twoyear period. Carcinogenicity Untreated naphthenic/aromatic oils are classified as carcinogenic to humans by IARC. Some countries require the "R45" designation due to the presence of this oil. Some rubber contains nitrosamines which have also been shown to be carcinogenic to animals in the laboratory. Teratogenicity / Embryo toxicity Does not cause harm to the unborn child. This product is not known to contain any components at >=0.1% that have been shown to cause reproductive toxicity. Therefore, based upon the available data and the known hazards of the components, this product is not expected to be a reproductive toxin.



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ECOLOGICAL INFORMATION

General Comments Environmental fate of this material is not available. Eco toxicity the ecological risk associated with the use of ground rubber in playgrounds has been investigated in several studies by evaluating the impact of leachates on aquatic life. In the majority of these studies, zinc was identified as the most likely toxic constituent. Aging of the rubber material and dilution from natural systems in which the species live is likely to prevent toxic effects. Research is ongoing.

DISPOSAL

CONSIDERATIONS Place used and contaminated material and packaging into suitable containers. Dispose of in accordance with government regulations.

TRANSPORT INFORMATION

Shipping Information: Not regulated Other Transport Information: Not applicable Special Shipping: Not applicable

REGULATORY INFORMATION

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all of the information required by the Controlled Products Regulations.

OTHER

Prepared by Expectra 259 Pty Ltd – 21 February 2024

Disclaimer The above information is derived from periodic tests taken on actual product from the manufacturing process. Some variances in specifications and raw surface appearances are possible due to the use of recycled materials and our manufacturing tolerances. In practice, the difference in materials, substrates and actual site conditions are such that no warranty in respect of merchantability or of fitness for a particular purpose, nor any liability arising out of any legal relationship whatsoever, can be inferred either from this information, or from any written recommendations, or from any other advice offered. The recommendation relating to the application and end use of Expectra products, are given in good faith, based on Expectras' current knowledge and experience of the product when properly stored, handled and applied under normal conditions in accordance with Expectras' recommendations. The user of the product must test the product's suitability for intended application and purpose. All orders are accepted subject to our current Terms and Conditions of Sales and delivery. Users must refer to the most recent issue of the Technical Data Sheet for the product concerned, copies of which will be supplied on request.