

MATERIAL SAFETY DATA SHEET

Manufacturer/ Supplier: Liberty Tire Recycling, LLC
 1251 Waterfront Place, 4th Floor
 Pittsburgh, PA
 15222-4261

Emergency Telephone Number:
 412-562-1700

SECTION 1 – PRODUCT AND COMPANY IDENTIFICATION

Product name	Rubber Mulch Feedstock		
Brand	Liberty Tire Recycling		
Product uses	Various Uses		
Supplier	Liberty Tire Recycling, LLC 1251 Waterfront Place, 4 th Floor Pittsburgh, PA 15222-4261	Manufacturer	Liberty Tire Recycling, LLC 1251 Waterfront Place, 4 th Floor Pittsburgh, PA 15222-4261
Telephone	412-926-1746		
Fax	412-697-2411		
Emergency phone #	412-562-1700		

SECTION 2 – HAZARDS IDENTIFICATION

Emergency Overview	
WHMIS Classification	Not a WHMIS controlled substance
OSHA Hazards	No known OSHA hazards
GHS label elements, including precautionary statements	
Signal Word	None
Hazard statement(s)	None
Precautionary statement(s)	P281: Use personal protective equipment as required
HMIS Classification	
Health hazard	1
Flammability	1
Physical hazards	1
Potential health effects	
Inhalation	Odor/vapors may be a nuisance in some individuals. In some individuals, short term exposure of material may produce mild and temporary discomfort to the respiratory tract resulting in wheezing, tightness in the chest, shortness of breath and coughing. Dust and small pieces of material may aggravate bronchitis, asthma, and emphysema if inhaled. Small cuts to the airway may result if pieces of metal are inhaled.
Skin	Material contains small fibers, particulate matter and dust that may result in irritation (redness/itching) or other effects with some individuals. Small pieces of metal that protrude from some pieces of material may be able to create small cuts.
Eyes	Material is abrasive if it enters the eye, which can cause irritation to sever damage if left untreated.
Ingestion	Irritation of mucus membranes of mouth, throat, esophagus and stomach along with nausea may occur. Abrasion to the mouth, esophagus, stomach and intestinal tract may occur.
Repeated exposure	Repeated exposure to material may result in sensitization in susceptible individuals.

SECTION 3 – COMPOSITION/INFORMATION ON INGREDIENTS

Material	CAS-No.	EC-No.	Index-No.	Concentration (%wt)
Natural rubber	9006-04-6	232-689-0	N/AV	15 – 40
Synthetic rubber	9003-55-8	N/AV	N/AV	15 – 40
Carbon black	1333-86-4	215-609-9	N/AV	20 – 35
Zinc oxide	1314-13-2	215-222-5	030-013-00-7	0.1 – 1
Sulfur	7704-34-9	231-722-6	016-094-00-1	0.1 – 0.5
Synthetic fibers, fillers, accelerators, anti-ozonants	N/AP	N/AP	N/AP	10 – 20

*Notes: The majority of fiber is not in a free form, but contained within the rubber material. Fibers do protrude from material, so they may become free or break off with mechanical agitation.
 The wire content of the product is less than 0.1% steel wire by weight.

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SECTION 4 – FIRST AID MEASURES

General advice

If negative symptoms develop while handling the product, move out of the area to prevent further exposure. Consult a physician as a precautionary measure if symptoms develop after being subjected to unprotected exposure of the material. Show this safety data sheet to the doctor in attendance.

If inhaled

In emergency situations, use proper respiratory protection and immediately remove the affected person from exposure. Keep at rest. Administer artificial respiration if breathing has stopped. Seek medical attention.

In case of skin contact

Wash exposed skin thoroughly with soap and water. If irritation develops and is prolonged and/or sore, consult a physician.

In case of eye contact

Flush eyes with plenty of water for at least 15 minutes. Avoid rubbing the eye. If experiencing prolonged irritation or soreness, seek medical attention.

If swallowed

Do not induce vomiting. Rinse mouth well with water. Never give anything by mouth to an unconscious person. Seek medical attention.

SECTION 5 – FIREFIGHTING MEASURES

Conditions of flammability

Non-flammable under standard use conditions. Material must be heated above 392°F (200°C) and an ignition source introduced before burning will occur.

Suitable extinguishing media

Fire extinguishing substances: dirt, sand, dry chemical, CO₂, alcohol-resistant foam, or F500 encapsulating agent.

If safe to do so, smothering the fire with large quantities of dirt or sand is usually the best option for extinguishing fires.

The material will be extremely hot if in liquid form. Be sure to keep distance between personnel and the fire.

If the fire is small and localized, CO₂ or foam are acceptable extinguishing substances. Due to the potential of pyrolytic oil being produced during uncontrolled burning, use of water may result in highly contaminated run-off that will require containment.

For large fires, trained firefighting personnel should be placed in charge of firefighting measures.

Special protective equipment for firefighters

Respiratory and eye protection are required for firefighting personnel.

A self-contained breathing apparatus (SCBA) meeting NFPA standards should be used for any significant indoor or outdoor fires.

For small outdoor fires, which may easily be extinguished with a portable fire extinguisher, use of a SCBA may not be required.

Contact with the smoke and fumes should be avoided. With burning or high heating, the material may melt, resulting in a sticky, molten material.

Hazardous combustion products

Thick, black, acrid smoke. Oxides of carbon, nitrogen and sulfur.

Uncontrolled burning may result in products of incomplete combustion including polynuclear aromatic hydrocarbons (naphthalene, anthracene, etc); aromatic hydrocarbons including benzene, toluene, xylene, styrene, etc; paraffinic oils; particulate and ash residues.

Explosion data – sensitivity to mechanical

Not explosive on impact

Explosion data – sensitivity to static discharge

Not explosive when subject to static discharge

SECTION 6 – ACCIDENTAL RELEASE MEASURES

Personal precautions

Ensure adequate ventilation to keep material component levels below workplace exposure limits. Avoid excessive dust formation and accumulation. Avoid prolonged exposure to vapors/odors and dusts created by material.

Environmental precautions

Precautionary measures to prevent large quantities of the product from entering and/or accumulating in drains should be implemented. In case of emergency, prevent further leakage or spillage if safe to do so.

Methods and material for containment and cleaning up

LAND SPILL : Sweep or vacuum material to prevent slip hazard. Try not to create dust. Collect for reuse if possible.

WATER SPILL : Contain area and try to recover material as best possible without disturbing surroundings.

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SECTION 7 – HANDLING AND STORAGE

Precautions for safe handling

For any application, use in a well-ventilated area or set engineering controls (ventilation) to keep airborne concentrations below the workplace exposure limits and prevent the build up of dust. Handle and open containers with care. Do not handle or store near an open flame or sources of heat.

Conditions for safe storage

Keep material away from incompatible materials or conditions. Material can be safely stored outdoors in a contained or sectioned off area. If material is stored inside, it should be kept in a well-ventilated location to keep airborne concentrations below the workplace exposure limits.

SECTION 8 – EXPOSURE CONTROLS/PERSONAL PROTECTION

Component	CAS #	Value	Control Parameters	Basis
Natural rubber	9006-04-6	TWA	0.0001 mg/m ³ 35 mg/m ³	USA. ACGIH (inhalable proteins) USA. ACGIH Threshold Limit Values (TLV)
Synthetic rubber	9003-55-8	N/AV	N/AV	No occupational exposure limits set for material
Carbon black	1333-86-4	TWA	3.5 mg/m ³ 3.5 mg/m ³	Canada. British Columbia OEL USA. ACGIH Threshold Limit Values (TLV)
Zinc oxide	1314-13-2	TWA	2 mg/m ³ 10 mg/m ³ 2 mg/m ³	Canada. British Columbia OEL Canada. Alberta OEL USA. ACGIH Threshold Limit Values (TLV)
Sulfur	7704-34-9	TWA	10 mg/m ³	Canada. Alberta OEL
Synthetic fibers, fillers, accelerators, anti-ozonants	N/AP	N/AP	N/AP	No occupational exposure limits set for material
Remarks:	If multiple exposure limits exist for a substance, the limits from the State(s), Province(s) or Territory with the highest and lowest values in the country are reported.			

Personal Protection Equipment

Respiratory protection

Respiratory protection is typically not required. Where protection from nuisance levels of dust are desired, use of a dust mask is recommended. Typical certified dusts masks types are N95 (US) or P1 (EN 143).

Hand protection

Short term exposure does not require gloves. Gloves are recommended for continuous or prolonged exposure of material. Any type of protective gloves is recommended to avoid prolonged or repeated skin contact. If gloves are disposable, dispose of contaminated gloves after use in accordance with applicable laws and work place practices. If gloves are re-usable, wash periodically to avoid build up of material matter. Wash and dry hands.

Eye protection

If dust or fines are likely to become airborne, safety glasses with side shields or goggles should be worn. When using eye protection, equipment should be tested and approved under appropriate government standards such as NIOSH (US) or EN 166 (EU).

Skin and body protection

Long sleeved clothing and full length pants should be worn if repeated or prolonged direct contact is likely to occur.

Hygiene measures

Handle in accordance with good industrial and commercial hygiene and safety practices. Wash hands before breaks and at the end of the work day.

Specific engineering controls

Material can be stored outside. Use in a well-ventilated area or set engineering controls to keep airborne concentrations below the exposure limits.

SECTION 9 – PHYSICAL AND CHEMICAL PROPERTIES

Appearance

Form Solid - irregularly sized rectangular pieces of rubber based material containing small pieces of light colored fibers
Color Black with light colored fibers protruding from rubber and mixed with material

Safety data

pH Not applicable
Melting/freezing point No data available
Boiling point No data available
Flash point >212°F; > 100°C (ASTM D3828)
Ignition temperature No data available
Autoignition temperature No data available
Lower explosion limit No data available
Upper explosion limit No data available
Vapor pressure No data available
Density 1.18 g/mL
Water solubility Not soluble

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Partition coefficient	Not applicable
Relative vapour density	No data available
Odor	Rubber or hydrocarbon-like odor
Odor threshold	No data available
Evaporation rate	Does not evaporate

SECTION 10 – STABILITY AND REACTIVITY

Chemical stability

Stable under recommended storage conditions.

Possibility of hazardous reactions

No data available

Conditions to avoid

Material may slowly degrade on storage, especially in the presence of iron particles and combined with heat or pressure, subsequently releasing carbon monoxide and carbon dioxide. Heat, ignition sources, and oxidizing agents should be avoided. Although typically present in small amounts, dust may be explosive under certain conditions (i.e. high airborne concentrations) in the presence of an ignition source.

Materials to avoid

Acids, oxidizing agents, iron particles, excess moisture

Hazardous decomposition products

Oxides of metals, carbon and nitrogen under fire or oxidative conditions

SECTION 11 – TOXICOLOGICAL INFORMATION

Acute toxicity

Oral LD50

No data available

Inhalation LC50

No data available

Dermal LD50

No data available

Other information on acute toxicity

No data available

Skin corrosion/irritation

No data available

Serious eye damage/eye irritation

No data available

Respiratory or skin sensitization

No data available

Germ cell mutagenicity

No data available

Carcinogenicity

This product contains a component (when isolated) that has been reported to be possibly carcinogenic (specifically when inhaled) based on its IARC, ACGIH, NTP or EPA classification. Limited evidence to carcinogenicity in animal studies. IARC: 2B – Group 2B: Possibly carcinogenic to humans (Carbon black)

Reproductive toxicity

No data available

Specific target organ toxicity – single exposure (Globally Harmonized System)

No data available

Specific target organ toxicity – repeated exposure (Globally Harmonized System)

No data available

Aspiration hazard

No data available

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- Eyes** Material is abrasive if it enters the eye, which can cause irritation to sever damage if left untreated.
- Ingestion** Irritation of mucus membranes of mouth, throat, esophagus and stomach along with nausea may occur. Abrasion to the mouth, esophagus, stomach and intestinal tract may occur.

Signs and Symptoms of Exposure

To the best of our knowledge, the chemical, physical and toxicological properties have not been thoroughly investigated.

Synergistic effects

No data available

Additional information

None

SECTION 12 – ECOLOGICAL INFORMATION

Toxicity

No data available

Persistence and degradability

No data available

Bioaccumulative potential

No data available

Mobility in soil

No data available

PBT and vPvB assessment

No data available

Other adverse effects

Extensive ecological testing has not been performed on the product. Standard good environmental workplace practices should be implemented when handling material in a workplace or external setting.

SECTION 13 – DISPOSAL CONSIDERATIONS

Product

The product is not a characteristic nor is listed as hazardous waste. Product materials that are no longer usable or that may have become contaminated should be placed in disposable containers and such materials should be managed and disposed in compliance with applicable federal, state, provincial, and local regulations.

Contaminated packaging

Packaging that is no longer usable or may have become contaminated should be placed in disposable containers and managed, recycled, or disposed of in compliance with applicable federal, state, provincial, and local regulations.

SECTION 14 – TRANSPORT INFORMATION

DOT (US)

Not dangerous goods

IMDG

Not dangerous goods

IATA

Not dangerous goods

SECTION 15 – REGULATORY INFORMATION

WHMIS Classification

Not WHMIS controlled

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

OSHA Hazards

No known OSHA hazards

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SECTION 16 – OTHER INFORMATION

Further information

Prepared August 30, 2013. The information, recommendations and suggestions in the Material Safety Data Sheet have been compiled from tests and data believed to be reliable. The above information is believed to be correct, but is not under guarantee or warrantee to be all inclusive and shall be used only as a guide. The information contained herein is based on the present state of our knowledge and is only applicable to the product or material set forth in Section 1. The information provided may not be applicable or complete if such product or material is used in combination with any other product or material, or in any process. The information provided on the product or material is with regard to appropriate safety precautions and does not represent any guarantee of the properties of the product. It is the user's obligation to determine the safety, toxicity and suitability for their own use of the product described herein and to comply with all applicable laws and regulations. Liberty Tire, LLC and its affiliates shall not be held liable for any damage resulting from handling or from contact with the above product.