

MATERIAL SAFETY DATA SHEET

SECTION 1 – PRODUCT INFORMATION

Supplier Name

The Mill-Rose Company
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Emergency Telephone No.

(800) 321-3598

Date Prepared: April 13, 2020

Replaces: July, 2007

Product

Carbon and Graphite Felt

Trade Names and Synonyms

The Insurance Pad™ Items 71036, 71038

SECTION 2 – HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture**Product definition**

Article

2.1.1 Classification according to Regulation (EC) No 1272/2008 [CLP]

Not classified

2.1.2 Classification according to Regulation 67/548/EEC or 1999/45/EC**Hazard symbols**

None

R-phrases

None

The product does not require a hazard warning Label, in accordance with OSHA HazCom and EC-directives.

2.2 Label elements**Labeling according to Regulation 67/548/EEC or 1994/45/EC****Hazard symbols**

None

R-phrases

None

S-phrases

None

Special labeling

Not applicable

2.3 Other hazards**Physio-chemical hazards**

See SECTION 10

In the supplied form the product itself is not explosive at all; however, the build-up of fines and dust can lead to a risk of dust explosions. See SECTION 11 and below.

Human health dangers**Eye**

Dust may cause temporary irritation.

Skin

Dust may cause mild irritation. In some cases, the dust may cause allergic skin reactions.

Inhalation

Dust may cause mild irritation.

Environmental hazards

See SECTION 12

Other hazards

This product and its dusts are electrically conductive.

SECTION 3 – COMPOSITION/INFORMATION ON INGREDIENTS

3.1 Product-type**Component****CAS. #****Article****EC #****%**

Carbon fiber (carbon) / Polyacrylonitrile (PAN)-based (Nitrogen)* (Oxygen)* <i>*as part of carbon fiber</i>	7440-44-0 (7727-37-9) (7782-44-7)	231-153-3 (231-783-9) (231-956-9)	91-100 (0-7%) (0-2%)
Sizing	Proprietary	N/A	N/A

SECTION 4 – FIRST AID MEASURES

4.1 Description of first aid measures

General information

Not applicable

Inhalation

Remove from the area of the dust to fresh air. Seek medical attention if you feel unwell.

Skin contact

Remove by tapping skin with adhesive surface material, such as Scotch® clear cellophane tape. Wash affected areas thoroughly with soap and water.

Eye contact

Flush eyes with water for 15 minutes.

Ingestion

In the event of deliberate ingestion, do not induce vomiting unless directed to do so by consulting with a doctor.

4.2 Most important symptoms and effects, both acute and delayed

No data available

4.3 Indication of any immediate medical attention and special treatment

No data available

SECTION 5 – FIREFIGHTING MEASURES

5.1 Extinguishing media

Suitable extinguishing media

Normal firefighting media and procedures.

Unsuitable extinguishing media

Dependent of processing plant conditions.

5.2 Special hazards arising from the substance or media

Airborne fibers are electrically conductive CO₂, CO and a minute amount of N₂, HCN and H₂O vapors may be formed during combustion.

5.3 Advise for firefighters

Self-contained breathing apparatus (SCBA).

SECTION 6 – ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures

6.1.1 For non-emergency personnel

Not applicable

6.1.2 For emergency responders

Not applicable

6.2 Environmental precautions

Not applicable

6.3 Methods and material for containment and cleaning up

6.3.1 For containment

In case of spill, collect the spilled materials. If the material is not contaminated, put it into a clean container and it can be reused. Otherwise, dispose of it properly.

6.3.2 For cleaning up

Because the dust is electrically conductive and may become airborne, clean up with a vacuum. If an electrical appliance is used, take the steps necessary to avoid the risk of electrical shock.

6.4 Preventative measures against second disasters

Remove possible sources of ignition in the surrounding area.

SECTION 7 – HANDLING AND STORAGE

- 7.1 Precautions for safe handling** No special measures necessary if used properly.
- 7.2 Conditions for safe storage, including any incompatibilities**
Airborne particles and filaments should be controlled so as to minimize skin irritation and electrical shorts in switch gears, etc. due to conductivity of fiber.
Do not store together with oxidizing agents.
- 7.3 Specific end use(s)** See SECTION 1.2

SECTION 8 – EXPOSURE CONTROLS/PERSONAL PROTECTION

- 8.1 Control parameters**
Occupational exposure limits
- OSHA and ACGIH (USA) have not established air contamination for carbon fibers. Under certain conditions this substance may be a nuisance dust. OSHA has an established standard for particulates not otherwise regulated (nuisance dust) set at 5 mg/m³ (respirable fraction) and 15 mg/m³ (total dust). ACGIH has established an exposure value of 3 mg/m³ (respirable fraction) and 10 mg/m³ (total).
- Japan Society of Occupational Health sets 0.5 mg/m³ limit for inhalation dust and 2.0 mg/m³ as the total dust that are classified as “Class 1 dust” by the Japanese regulation (2011).
- NHFPC (PRC) has an established standard for carbon fiber’s particulates not otherwise regulated set at 6 mg/m³ ESTL (total dust) and 3 mg/m³ TWA (total dust).
- Belgium has established an Occupational Exposure Limit for carbon fiber as 2 fiber/cm³ TWA.
- 8.2 Exposure controls**
- 8.2.1 Appropriate engineering controls** Local exhaust for airborne fiber removal.
- 8.2.2 Personal protection equipment**
- 8.2.2.1 Eye and face protection** Safety glasses
- 8.2.2.2 Skin protection**
- Hand protection** Protective gloves
- Other skin protection** Recommend disposable protective garments to eliminate possible skin irritation.
- 8.2.2.3 Respiratory protection** Personal dust respirators applicable if high degree of fiber fly is experienced.
- 8.2.2.4 Thermal hazards** Not applicable
- 8.2.3 Environmental exposure controls** See SECTIONS 6 & 7

SECTION 9 – PHYSICAL AND CHEMICAL PROPERTIES

- 9.1 Information on basic physical and chemical properties**
- Appearance** Black fiber
- Odor** Odorless
- pH** Not applicable
- Melting point / freezing point** ~ 3,500°C

Initial boiling point and boiling range	Not applicable
Flashpoint	Not applicable
Evaporation rate	Not applicable
Flammability (solid, gas)	Not applicable
Upper/lower flammability or explosive limits	Not applicable
Vapor pressure	Not applicable
Vapor density	Not applicable
Specific gravity (relative density)	1.81 (H ₂ O @ 4°C = 1.00)
Solubility(ies) water	Negligible (dispersible)
Partition coefficient n-octanol/water	Not applicable
Auto ignition temperature	Not applicable
Decomposition temperature (in Air)	
Sizing preparation	>240°C
Carbon Fiber	>650°C
Viscosity	Not applicable
Explosive properties	Potential for weak explosion with milled fiber or dusts. Class St 1* / <50K _{st} (bar·m/s) <i>*OSHA CPL 03-00-008 – Combustible Dust National Emphasis Program</i>
Oxidizing properties	Not applicable
9.2 Other information	No other information available.

SECTION 10 – STABILITY AND REACTIVITY

10.1 Reactivity	See SECTION 10.3
10.2 Chemical stability	Stable under normal ambient and anticipated storage and handling conditions of temperature and pressure. Can react with strong oxidizing agents.
10.3 Possibility of hazardous reactions	See SECTION 7
10.4 Conditions to avoid	See SECTION 10.3
10.5 Incompatible materials	Products of combustion and decomposition will depend on other materials present in the fire and the fire conditions. Burning will produce CO ₂ , CO, and minute amounts of N ₂ , HCN and H ₂ O.
10.6 Hazardous decomposition products	

SECTION 11 – TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects	
Acute toxicity	No data available
Skin corrosion/irritation	No data available
Serious eye damage/irritation	No data available
Respiratory or skin sensitization	No data available
Germ cell mutagenicity	No data available
Carcinogenicity	No data available
Reproductive toxicity	No data available
STOT-single exposure	No data available
STOT-repeated exposure	No data available

Aspiration hazard

Not an inhalation hazard.
Filament diameter >3µm / non-respirable (IARC)

SECTION 12 – ECOLOGICAL INFORMATION

12.1 Toxicity	No data available
12.2 Persistence and degradability	No data available
12.3 Bioaccumulative potential	No data available
12.4 Mobility in soil	No data available
12.5 Results of PBT and nPvB assessment	No data available
12.6 Other adverse effects	Ecological data not available.

SECTION 13 – DISPOSAL CONSIDERATIONS

13.1 Waste treatment methods	Waste materials must be disposed of in accordance with the Directive on waste 2008/98/EC and any other applicable national or local regulations.
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SECTION 14 – TRANSPORT INFORMATION

14.1 UN number	See SECTION 14.2
14.2 UN proper shipping name	Not Dangerous Goods ADR/RID (land) ADN (inland navigation) IMDG (marine)
14.3 Transport hazard class(es)	See SECTION 14.2
14.4 Packing group	See SECTION 14.2
14.5 Environmental hazards	See SECTION 14.2
14.6 Special precautions to user	See SECTIONS 6 to 8
14.7 Transport in bulk according to Annex II of MARPOL73/78 and the IBC code	Not applicable

SECTION 15 – REGULATORY INFORMATION

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture	
TSCA Status	Exempt – satisfies 'article' definition under 40 CFR 704.3
15.2 Chemical safety assessment	Has not been carried out.

SECTION 16 – OTHER INFORMATION

16.1 Revision date	April 13, 2020
16.2 Previous revision	July 2007
16.3 Abbreviations and acronyms	ADN = Accord européen relative au transport international des marchandises dangereuses par voie de navigation intérieure ADR = Accord européen relative au transport international des marchandises Dangereuses par Route CAS = Chemical Abstracts Service CLP = Classification, Labeling and Packaging EEC = European Economic Community EINECS = European Inventory of Existing Commercial Chemical Substances

ELINCS = European List of Notified Chemical Substances

IBC-Code = International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk

IMDG = International Maritime Code for Dangerous Goods

MARPOL = International Convention for the Prevention of Marine Pollution from Ships

OSHA = Occupational Safety and Health Administration

PBT = Persistent, Bioaccumulative and Toxic Substance

RID = Règlement concernant le transport international ferroviare de marchandises dangereuses

NOTICE FROM THE MILL-ROSE COMPANY

The information in this Material Safety Data Sheet (MSDS) relates only to the specific material designated herein and does not relate to use in combination with any other material or in any process. We believe that the information contained herein is current as of the date of the MSDS. Since use of this information and these opinions and the conditions of use of the product are not within the control of The Mill-Rose Company, it is the user's obligation to determine the conditions of safe use of the product.