

## Material Safety Data Sheet

### SECTION 1: PRODUCT IDENTIFICATION

Product Name: HGM® PAN Asphalt Fibers  
(Polyacrylonitrile Fibers,PAN Fibers)  
CAS: 25014-41-9  
Molecular formula: C3H3N  
Product Use: Strengthen and crack resistance of concrete and asphalt mixtures.

Name of Company: Pioneer Scientific Industry (Nanjing) Co., Ltd  
Address: No.3 Jingming Road, Binjiang Develop Zone, Jiangning, Nanjing, China.  
Zip Code: 211161  
Telephone Number: +86-25-86218319

### SECTION 2: COMPOSITION INFORMATION

This product is not a health hazard.  
Ingredient: Polyacrylonitrile  
Concentration: 100%

### SECTION 3: HAZARDS IDENTIFICATION

Not categorized as hazardous or harmful material. No hazard anticipated under conditions of foreseeable use or exposure.

Primary routes of entry: Inhalation, ingestion, eyes and skin.

Hazard Classification: N/A

Health Hazards: N/A

Environmental Hazards: N/A

Explosion Hazards: N/A

Inhalability: Since the fiber has a diameter  $>10 \mu\text{m}$ , and a length  $>1000 \mu\text{m}$ , it does not fall in the category of inhalable fibers ( $d < 3 \mu\text{m}$ ;  $L < 500 \mu\text{m}$ ).

Eyes: Mildly irritating.

Skin: mildly itching.

Refer to Section 5 for Hazardous Combustion Products and Section 10 for Hazardous Decomposition/Hazardous Polymerization Products.

### SECTION 4: FIRST AID ME5SURES

Generally, no adverse health effects are expected from exposure to this product.

However, as with many materials, a very small percentage of the population may be allergic to one or more of the components that make up these products. Employees who have a history of skin disease or allergy should receive medical clearance prior to employment involving direct contact.

**SKIN CONTACT:** Wash the contact area with water; Get medical attention if prolonged exposure.

**EYE CONTACT:** Immediately flush eyes with plenty amount of water for 15 minutes; Get medical attention if prolonged exposure.

**INHALATION:** Immediately remove victims to fresh air with good ventilation and restore normal breathing. Get medical attention if irritation develops or persists.

**INGESTION:** No hazardous effects if small amount is ingested; if large amount is ingested, the victim should be observed a few days to make sure there is no blockade or irritation to the stomach and intestine.

## **SECTION 5: FIRE FIGHTING PROCEDURES**

### **Fire and Explosion data:**

Flammability: may ignite upon exposure to an open flame.

Preventive measures: Store the product in a dry location with appropriate ventilation; keep away from open flames or sparks.

Use standard procedures for Class A fires.

Wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH approved (or equivalent) and full protective gear when fighting fires involving this product.

- Evacuate people crowd and quarantine the fire source.

### **EXTINGUISHING MEDIA:**

Water spray, dry chemical, foam, carbon dioxide or Halon may be used on fires involving this product.

### **CONDITIONS TO AVOID:**

None known.

### **HAZARDOUS COMBUSTION PRODUCTS:**

If heated by combustion, the following substances may be formed: carbon monoxide, carbon dioxide, hydrocarbons, aldehydes, ketones, acrolein, fatty acids and products resulting from an incomplete combustion. Temperature, air supply, and materials present will affect the amount formed of any of the potential combustion products.

## **SECTION 6: SPILL/LEAK CLEANUP PROCEDURES**

**Environmental precautions:** not applicable.

### **CONTROL PROCEDURES:**

-To shovel the product into suitable container and could be treated as non-hazardous substance.

-The dust produced during the manufacturing process will precipitate in the air, if it accumulates on the floor; it can be shoveled into suitable containers and could be treated as a non-hazardous substance.

## **CLEANING PROCEDURES:**

-Clean and collect the product. Put it into a suitable container for further handling. If a product is not contaminated, either reuse, or dispose of according to local legislation.

-Completely clean the spill / leak areas.

-Wear suitable protection clothing during the cleaning process

-Avoid spreading the dust around during the cleaning process.

## **SECTION 7: HANDLING AND STORAGE**

### **GENERAL MEASURES:**

Air-tight packaging; Stored in dry and well-ventilated areas.

Store in a warehouse that is protected with a fire sprinkler system.

Store at temperatures below 60°C (140°F).

### **HANDLING PRECAUTION:**

No special precautions for handling.

Avoid inhaling the dust produced from the products.

Avoid eye and skin contact with the dust.

Minimize the production of dust if possible.

### **MATERIALS OR CONDITIONS TO AVOID:**

Avoid storing products near incompatible materials.

Avoid high temperature and rainwater.

Keep it away from exposure to children.

## **SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION**

### **GENERAL HYGIENIC PRACTICES:**

Avoid breathing fiber and dust.

Wash thoroughly after handling, and before eating, drinking, or smoking.

### **RECOMMENDED EXPOSURE LIMITS:**

#### **EXPOSURE LIMITS:**

(1) MAC (mg/m<sup>3</sup>): N/A

(2) TWA (mg/m<sup>3</sup>): N/A

(3) STEL (mg/m<sup>3</sup>): N/A

This product is not considered to present an inhalation health hazard under reasonably anticipated conditions of use.

### **PERSONAL PROTECTIVE EQUIPMENT:**

-Respiratory: dust masks.

-Eyes: safety goggles

-Hands: safety gloves.

**WORK PRACTICES AND ENGINEERING CONTROLS:**

Eyewash fountains and safety showers should be easily accessible.

Provide adequate ventilation.

**PROTECTIVE MEASURES DURING REPAIR AND MAINTENANCE:**

Keep the area clean. Product will burn.

**OTHERS:** No Smoking within the working areas and keep good hygiene habits.

**SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES**

|   |                                 |
|---|---------------------------------|
| Appearance:                             | White, light yellow, soft       |
| Odor:                                   | very slight odor of spin finish |
| Boiling Point:                          | N/A                             |
| Flash Point:                            | N/A                             |
| Critical Temperature:                   | N/A                             |
| Critical Pressure:                      | N/A                             |
| Vapor Pressure:                         | N/A                             |
| Vapor Density:                          | N/A                             |
| % Volatiles by Vol.                     | N/A                             |
| Melting Point:                          | ≥ 317°F (603°C)                 |
| Vapor Pressure:                         | N/A                             |
| Solubility in Water:                    | Insoluble                       |
| Evaporation Rate:                       | N/A                             |
| Octanol to water partition coefficient: | N/A                             |
| Relative Density:                       | 1.18                            |
| PH:                                     | N/A                             |
| Explosion upper limit (V/V):            | N/A                             |
| Explosion lower limit (V/V):            | N/A                             |
| Heat of combustion (kJ/mo.)             | N/A                             |

**SECTION 10: STABILITY AND REACTIVITY**

Stability: Stable under normal conditions.

Incompatibility: Avoid contact with flammable and explosive substances.

Incompatible: strong acids, bases, and oxidizing materials.

Hazardous Decomposition Products: none, except combustion products.

Condition Contributing to Polymerization: Not applicable.

## **SECTION 11: TOXICOLOGICAL INFORMATION**

Acute exposure: N/A

Sensitization: N/A

Carcinogenicity: Not listed as carcinogenic by NTP. Not regulated as a carcinogen by OSHA. Not evaluated by IARC.

Mutagenicity: N/A

Reproductive Toxicity: N/A

## **SECTION 12: ECOTOXICITY**

Ecology Toxicity: N/A

Biodegradability: N/A

Non-Biodegradability: N/A

The fibers are not associated with any ecological problems.

The fibers are not biodegradable.

## **SECTION 13: DISPOSAL CONSIDERATIONS**

Unused products should be treated as non-hazardous waste, products should be recycled as much as possible. Otherwise, deposit in landfill or incinerate according to local regulation.

## **SECTION 14: TRANSPORTATION DATA**

It does not belong to hazardous goods, and it is packaged according to the packaging requirement of ordinary goods.

Dangerous Goods No: N/A

UN No: N/A

Packaging Label: N/A

Packaging Type: N/A

Packaging Method: N/A

Precaution regarding transportation: No special regulations for this product. Complete packaging and proper loading; Use suitable containers to avoid leaking, toppling down, falling, or damaging of products during transportation; should not pack or transport with acids.

## **SECTION 15: REGULATORY INFORMATION**

Refer to common precautions and local public regulations for handling of chemicals.

### **SARA Title III Reporting Information**

**Tier I&II Hazard Categories:** N/A

Contains Extremely Hazardous SARA I Section 302 Ingredient: NO Comments.

Contains Toxic Chemical Release SARA III Section 313 Ingredient: No Comments.

**CHEMICAL INVENTORY CERTIFICATION:**

All ingredients contained in this product are included on the US EPA Toxic Substances Control Act (TSCA) Inventory or exempt from listing on the TSCA Inventory.

**For Canadian Products ONLY**

All ingredients contained in this product comply with the requirements of the Canadian Environmental Protection Act (CEPA) and are listed on the Domestic Substance List (DSL) or Non-Domestic Substance List (NDSL).

**CALIFORNIA PROPOSITION 65 INFORMATION:** Not Applicable.

**WHMIS CLASS:** Not WHMIS regulated.

Nonhazardous Ingredient Disclosure: None

**SECTION 16: Others**

Department of Filling form: Technical Department

Date of issue: April.1.2013

Department of Data Auditing: N/A

**Instruction for amendment:**

All information contained herein is presented in good faith and without any warranty, including a warranty of the fitness of the information for a particular purpose.

This MSDS is made according to the present data we have, in the purpose of describing the health, safety and environment requirements of this product so that all parties can have a better understanding and trust on this product. The information provided is just for reference and please be reminded that the safety precautions described above are not unique.

Therefore, this MSDS cannot serve as evidence or proof on any safety issues. Any party has the responsibility to finish the safety tests of this product to examine whether this product can satisfy your application.

This Material Safety Data Sheet information does not exempt the product user to respect all legislative, regulatory, and administrative texts related to the product safety, hygiene, human health, and environmental protection of his country.

Pioneer Scientific Industry (Nanjing) Co., Ltd accepts no liability for damages or losses resulting from the use or misuse of this information.