CURTISS-WRIGHT

Middleburg Hts., OH

Safety Data Sheet

Section 1 – Identification of the Substance/Preparation, and of the Company

Product Identifier: AP Style # 7010	[WHMIS Classification] Not Listed
Product Use: Valve Packing	

Manufacturer's Name:	Supplier's Name:
Curtiss-Wright	Curtiss-Wright
Street Address: 18001 Sheldon Road	Street Address: 18001 Sheldon Road
City: Middleburg Hts. / State: OH	City: Middleburg Hts. / State: OH
Postal Code: 44130 / Emergency Telephone: +1.216.267.3200	Postal Code: 44130 / Emergency Telephone: +1.216.267.3200

Date MSDS Prepared:	MSDS Prepared By:	Phone Number:
1/29/16	Raymond Moody	+1.216.267.3200

Section 2 –Composition/Information on Ingredients

Hazardous Ingredients (specific)	%	CAS Number	OSHA PEL	ACGIH TLV
Expanded natural purified graphite	100%	7782-42-5	2.5mg/m3	2.5 mg/m3
Carbon Yarn		7782-42-5		

Section 3 – Hazards Identification

Route of Entry: ☒ Skin Absorption/contact ☒ Eye Contact ☒ Inhalation ☒ Ingestion

[Emergency Overview]

High concentration of graphite dusts may be irritating to the eyes, skin, mucous membranes, and respiratory tract.

[WHMIS Symbols]

N/A

[Potential Health Hazard]
Eye – Eye contact may cause slight chemical and mechanical irritation.
Skin - Dermal irritation and allergic skin reaction if dust contacts skin for prolonged or repeated periods. May cause abrasion with resulting irritation and rash.
Inhalation - Release of large amounts of dust may cause upper respiratory tract irritation and dust related lung disease.
Ingestion – Low toxicity if ingested.

Section 4 – First Aid Measures

Skin Contact:
Frequent washing will deter transitory chemical and mechanical dermatitis. If rash develops consult a physician.
Eye Contact:
Immediately wash eyes with water for at least 5 minutes. Seek medical attention is discomfort persists.
Inhalation:
Remove patient to fresh air. If breathing is difficult, oxygen may be administered. If breathing has stopped, artificial respiration should be started immediately. Seek medical attention.
Ingestion:
Ingestion is not expected to be an important route into the body. If, however, the material is ingested, give 2 glasses of water and induce vomiting.

Section 5 – Fire Fighting Measures

Flammable:	If yes, under what conditions?
☒ Yes ☐ No	Bulk material is non-combustible. Dust are combustible--Use water, carbon dioxide, dry chemical or foam

Means of Extinction:
Bulk material is non-combustible. Dusts are combustible-Use water, carbon dioxide, dry chemical or foam. Material in or near fires should be cooled with a water spray or fog. A self-contained breathing apparatus, operating in the positive pressure mode, and full firefighting protective clothing should be worn for combating fires.

Flashpoint (°C) and Method:	Upper Flammable Limit (% by Volume):	Lower Flammable Limit (% by Volume):
N/A	N/A	N/A

Auto ignition Temperature (°C):	Explosion Data – Sensitivity to impact:	Explosion Data – Sensitivity to Static Discharge:
N/A	N/A	Large concentrations of air-born dust may produce a low power explosion if ignited.

Hazardous Combustion Products:

Thermal decomposition or combustion may produce dense smoke, oxides of carbon and low molecular weight organic compounds whose composition has not been characterized.

[NFPA]:

Health: 1 ; Flammability: 0 ; Instability: 0

Section 6 – Accidental Release Measures

Leak and Spill Procedures:

As gasketing, product does not spill or create a release. Accumulated dust may be vacuumed using a vacuum fitted with a HEPA filter or wet mopped for cleanup.

Section 7 – Handling and Storage

Handling Procedures and Equipment:

Avoid causing dust.

Storage Requirements:

Store in labeled, closed containers away from heat, spark, open flames, and other sources of ignition. Do not store with or near incompatible chemicals. Do not let containers of material accumulate in the workplace. Promptly clean up any spills of dust that may occur. Any dusts generated during handling or processing should be cleaned up by wet mopping or vacuuming with a unit which contains a HEPA filter. Dry sweeping can re-suspend particulate matter in the atmosphere.

Section 8 – Exposure Controls/Personal Protection

Exposure limits: ☒ ACGIH TLV ☒ OSHA PEL ☐ Other (specify)

Specific Engineering Controls (such as ventilation, enclosure process)

Ventilation - If dusts are generated during processing or use, local exhaust ventilation should be provided to maintain exposures below the limits. Designed details for local exhaust ventilation systems may be found in the latest edition of "Industrial Ventilation: A manual of recommended practices" published by the ACGIH committee on "Industrial Ventilation, P.O. Box 16153, Lansing, MI 48910. The need for local exhaust ventilation should be evaluated by a professional industrial Hygienist. Local exhaust ventilation systems should be designed by a professional engineer.

Personal Protective Equipment	☒ Gloves	☒ Respirator	☒ Eye	☐ Footwear	☒ clothing	☐ other

If marked, please specify type:

Protective Gloves - Protective gloves are recommended to prevent cuts, abrasions, and irritation during handling and storage. Work/Hygienic Practices All chemicals should be handles so as to prevent eye contact and excessive or repeated skin contact. Appropriate eye and skin protection should be employed. Inhalation of dusts and vapors should be avoided.

Respiratory - If exposures exceed the limits by less than a factor of 10, use in a minimum a NIOSH approved 1/2 face piece respirator equipped with cartridges for particulate matter with an exposure limit of not less than 0.05mg/m3. If exposure exceed 10 times the limit. Consult a professional industrial hygienist or your respiratory protective equipment supple for selection of the proper equipment. The evaluation of the needed for respiratory protection should be determined by a professional industrial hygienist.

Eye Protection - Protection glasses with side-shields should be worn to prevent eye contact with particulate matter.

Other Protective Clothing or Equipment - Where normal work clothes may become soiled by dusts, coveralls are recommended. Wash solid clothing before reuse.

Section 9 – Physical and Chemical Properties

Physical State:	Odor and Appearance:	Odor Threshold:
Solid	Black Solid Shapes - Slight Hydrocarbon	Non-significant
Specific Gravity:	**Vapor Density (air =1):**	**Vapor Pressure (mmHg):**
0.8-1.5	N/A	N/A
Evaporation rate:	**Boiling/melting Point (°C):**	**Freezing Point (°C):**
N/A	>2076°C	<2076°C
pH:	**Coefficient of Water / Oil Distribution:**	**[Solubility in Water]:**
7	N/A	Negligible

Section 10 – Stability and Reactivity

Chemical Stability	If no, under which conditions?
☒ Yes ☐ No	
Incompatibility With Other Substances	**If yes, which ones?**
☒ Yes ☐ No	Strong oxidizing agents

Condition to avoid – Incompatible materials, excessive heat
Reactivity and under what conditions: None Known
Hazardous Decomposition Product: Carbon monoxide, carbon dioxide

Section 11 – Toxicological Information

Effects of Acute Exposure: High concentration of graphite dusts may be irritating to the eyes, skin, mucous membranes, and respiratory tract	
Effects of Chronic Exposure: Chronic inhalation of high concentrations of graphite dusts over prolonged periods of time may cause pneumoconiosis. Symptoms can include cough, shortness of breath, and decrease in pulmonary function. Pre-existing pulmonary disorders such as emphysema may possible be aggravated by prolonged exposure to high concentration of graphite dusts.	
Irritancy of Product: Relative	
Skin Sensitization: Relative	Respiratory Sensitization: Relative
Carcinogenicity **– IARC**: Not listed as Carcinogenic	Carcinogenicity **– ACGIH:** Not listed as Carcinogenic
Reproductive Toxicity: No data available	Teratogenicity: No data available
Embryo toxicity: No data available	Mutagenicity: No data available
Name of Synergistic Products / Effects: No data available	

[Optional, not required under WHMIS]

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Section 12 – Ecological Information

Aquatic Toxicity:

No data available

Section 13 – Disposal Considerations

Waste Disposal:

Materials are generally not considered hazardous waste as defined under RCRA. However, since waste disposal laws vary within states and municipalities, disposal of these products should be in accordance with all local, state, and federal laws and regulations (contact local or state environmental agencies for specific rules).

Section 14 – Transport Information

Special Shipping Information:

No special precautions necessary.

	PIN N/A
TDG: N/A	[DOT] Not regulated
[IMO] N/A	[ICAO] N/A

Section 15 – Regulatory Information

[WHMIS Classification] Not Classified	[OSHA] Health: 2 ; Flammability: 1 ; Instability: 0
[SERA] No data available	[TSCA] No data available

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

Section 16 – Other Information

Use: The limitations of use decrease significantly as gasket thickness increases. Do not use a thicker gasket material or "double gaskets" to solve a gasket problem without first consulting the manufacturer. Curtiss-Wright engineers can advise on gasket selection and installation based on specified operating conditions. If you are in any doubt, visit our website at www.cwnuclear.com, fax us at 724-295-6201 or phone us at

+1.216.267.3200.
All gaskets should be cut by trained personnel only. Incorrect cutting can produce weaknesses in a gasket that may not be visible, but could cause failure. Gasket installation should be carried out by trained personnel only.
The ability of a gasket material to make and maintain a seal depends not only on the quality of the gasket material, but also on medium being sealed, the flange design, the amount of pressure applied to the gasket by the bolts and how the gasket is assembled into the flanges and tightened.
The higher the operating pressure and/or temperature, the greater the care and expertise required in selecting and installing gaskets. This includes, but is not limited to: confirmation that the flanges are suitable for the intended use; the finish on the flange faces; the parallelism of the flange faces; confirmation that the studs, bolts, washers and nuts are suitable for the intended use and in good condition; no anti stick compound is applied to the flanges or gaskets; confirmation that the gasket material and thickness are suitable for the intended use; and the gasket is evenly loaded by the correct tightening sequence of the bolts or studs, and to the correct torque to give the required gasket assembly stress. The use of torque wrenches, hydraulic bolt tensioners or other loading devices can assist achievement of the correct gasket stress.
The application of release agents to the gasket or flanges may cause gasket failure.
Because conditions of use are beyond the manufacturer's control, it is the responsibility of the user to ensure that the product is suitable for the intended use.
WARNING: Catastrophic gasket failure can be caused by steam or water hammer. Steam or water hammer can cause an instantaneous increase in internal pressure on the assembly that far exceeds the design or test pressures. Where water hammer exists, the basic problem should be corrected. DO NOT USE AP MATERIAL IN APPLICATIONS WHERE WATER OR STEAM HAMMER MAY STRESS THE GASKET BEYOND ITS DESIGN TOLERANCES
The information above is believed to be accurate and represents the best information available to us. However, we make no warranty expressed or implied, with respect to such information, and we assume no liability resulting from its use.

[Optional, not required under WHMIS]