



INDUSTRIES 3R

SAFETY DATA SHEET

SECTION 1. IDENTIFICATION

IDENTITY:

Part Number:

3R771

Identity:

HIGH TEMP. VALVE STEM PACKING

Description:

HIGH TEMP. VALVE STEM PACKING

SUPPLIER :
Industries 3R Inc.

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SECTION 2. HAZARDS IDENTIFICATION

GHS Classification:

Physical	Health
Not Hazardous	Skin Sensitization Category 1 Carcinogen Category 1B Specific Target Organ Toxicity Repeat Exposure Category 1

Label Elements:

H317 May cause an allergic skin reaction

H350 May cause cancer.

H372 Causes damage to organs lungs through prolonged or repeated exposure by inhalation.

P201 Obtain special instructions before use.

P202 Do not handle until all safety precautions have been read and understood.

P260 Do not breathe dust/ or fumes.

P270 Do not eat, drink or smoke when using this product.

P272 Contaminated work clothing should not be allowed out of the workplace.

P280 Wear protective gloves and protective clothing.

P302 + P352 IF ON SKIN: Wash with plenty of soap and water.

P333 + P313 If skin irritation or rash occurs: Get medical advice/attention.

P362 + P364 Take off contaminated clothing and wash it before reuse.

P308 + P313 IF exposed or concerned: Get medical attention.

P405 Store locked up.

P501 Dispose of contents and container in accordance with local and national regulations.

SECTION 3. COMPOSITION / INFORMATION ON INGREDIENTS

Component	CAS#	Percentage
Kaolin	1332-58-7	Proprietary
Chromium	7440-47-3	Proprietary
Fiberglass	65997-17-3	Proprietary
Graphite	7782-42-5	Proprietary
Iron	7439-89-6	Proprietary
Mica	12001-62-2	Proprietary
Nickel	7440-02-0	Proprietary

Polytetrafluoroethylene Resin	9002-84-0	Proprietary
Crystalline Silica, Quartz*	14808-60-7	Proprietary
Zinc	7440-66-6	Proprietary

* The crystalline silica, quartz in this product is inextricably bound in a manner that no exposure occurs during normal use and handling. Therefore the product is not classified as a carcinogen or Specific Target Organ Toxicity Repeat Exposure Category 1.

SECTION 4. FIRST AID MEASURES

Eyes: If direct contact occurs, flush with plenty of water, especially under eyelids. Get medical attention if irritation persists.

Skin: Remove contaminated clothing. Wash with soap and water. If irritation or rash occurs, get medical attention. Launder clothing before reuse.

Inhalation: If irritation or other symptoms occur, remove to fresh air. Get medical attention if irritation or symptoms persist.

Ingestion: No adverse effects are expected. Consult a physician if large amounts are swallowed.

Most important symptoms/effects, acute and delayed: Dust may cause mechanical eye and skin irritation. May cause skin sensitization. Inhalation of dust may cause nose, throat or upper respiratory tract irritation. Prolonged over exposure by inhalation may cause inflammation of the lung, reduced lung function and damage to nasal passages. May cause cancer based on animal data.

Indication of immediate medical attention and special treatment: No immediate medical attention is required.

SECTION 5. FIRE FIGHTING MEASURES

Suitable (and unsuitable) extinguishing media: Use water, foam or ABC powder. Do not use carbon dioxide. This product burns with difficulty.

Specific hazards arising from the chemical: Solid product will burn slowly under fire conditions. Fine dusts that may be generated during processing may present a greater fire and explosion hazard. Thermal decomposition can yield carbon monoxide, carbon dioxide, hydrogen fluoride, oxides of nitrogen, perfluoroisobutylene, hexafluoropropylene, carbonyl fluoride, tetrafluoroethylene, and iron, chromium, nickel and zinc oxides.

Special Fire Fighting Procedures: Fight as any normal fire using self-contained breathing apparatus (SCBA) and full protective clothing where exposed to smoke.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment, and emergency procedures: None required under normal conditions of use.

Environmental hazards: Report spill as required by local and federal regulations.

Methods and materials for containment and cleaning up: Pick-up solid material for reuse or disposal. For dust that may be generated, collect with methods such as vacuuming or wet wiping, that minimizes the generation of airborne dust. Only vacuum using a HEPA filter equipped vacuum cleaner.

SECTION 7. HANDLING AND STORAGE

Precautions for safe handling: Avoid creation and inhalation of dust and fumes. Provide local exhaust ventilation at points where dust or fumes may be generated during cutting and processing. Do not use compressed air for cleaning

Conditions for safe storage: No special storage required.

SECTION 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Exposure guidelines:

Component	Exposure Limit/Source
Kaolin	5 mg/m ³ (respirable), 15 mg/ m ³ (total dust) TWA OSHA PEL 2 mg/m ³ TWA (respirable) ACGIH TLV
Chromium (metal)	1 mg/m ³ TWA OSHA PEL 0.5 mg/m ³ TWA ACGIH TLV
Fiberglass	1 fiber/cc TWA ACGIH TLV (respirable fibers) 5 mg/m ³ TWA ACGIH TLV (inhalable)
Graphite (natural)	5 mg/m ³ TWA OSHA PEL (respirable), 15 mg/m ³ (total dust) 2 mg/m ³ TWA ACGIH TLV (respirable)
Iron (as iron oxide)	10 mg/m ³ TWA OSHA PEL (as fume) 5 mg/m ³ TWA ACGIH TLV (respirable)
Mica	20 mppcf TWA(respirable) OSHA PEL 3 mg/m ³ TWA ACGIH TLV (respirable)
Nickel (elemental)	1 mg/m ³ TWA OSHA PEL 1.5 mg/m ³ TWA (inhalable)
Polytetrafluoroethylene Resin	None Established
Crystalline Silica, Quartz	0.05 mg/m ³ TWA (respirable dust) * 0.025 mg/m ³ TWA ACGIH TLV (respirable)
Zinc	None Established

* 1910.1053 2016 OSHA PEL effective June 23, 2018

The OSHA PEL until June 23, 2018 $\frac{10 \text{ mg/m}^3}{\% \text{SiO}_2 + 2}$ TWA (respirable dust) $\frac{30 \text{ mg/m}^3}{\% \text{SiO}_2 + 2}$ TWA (total dust)
for Quartz

Definitions:

PEL means OSHA Permissible Exposure Limit.

TLV means American Conference of Governmental Industrial Hygienists (ACGIH) Threshold Limit Value.

TWA means time-weighted average.

STEL means short-term exposure limit.

Appropriate engineering controls: No special ventilation required for handling solid material. Local exhaust or process enclosures may be needed if dust or fume are generated in processing.

Personal Protective Measurers:

Respiratory Protection: None required for handling solid material. If processing generates dust or fumes and engineering controls are not available to control the exposures, appropriate respiratory protection may be required. Selection of respiratory protection depends on the contaminant type, form and concentration. Select in accordance with OSHA 1910.134 and good Industrial Hygiene practice.

Skin Protection: Heavy work gloves recommended handling solid material to prevent cuts from sharp metal edges. If dust or fumes are generated in processing, wear appropriate gloves.

Eye Protection: Chemical safety glasses recommended when handling solid material. If dust or fumes are generated in processing, wear safety goggles.

Other Protective Equipment: None normally required. Wear protective clothing in hazardous environments.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance (physical state, color, etc.): Black braided yarn

Odor: No odor.

Odor threshold: Not applicable	pH: Not applicable
Melting point/Freezing point: Not applicable	Boiling point: Not applicable
Flash point: Not applicable	Evaporation rate: Not applicable
Flammability (solid, gas): Not applicable	
Flammable limits: LEL: Not applicable	UEL: Not applicable
Vapor pressure: Not applicable	Vapor density: Not applicable
Relative density: Not available	Solubility: Insoluble in water
Partition coefficient: n-octanol/water: Not applicable	Auto-ignition temperature: Not available
Decomposition temperature: Not available	Viscosity: Not applicable

SECTION 10. STABILITY AND REACTIVITY

Reactivity: Not reactive

Chemical stability: Stable

Possibility of hazardous reactions: None known.

Conditions to avoid: Avoid open flames.

Incompatible materials: Avoid contact with strong oxidizers.

Hazardous decomposition products: Thermal decomposition can yield carbon monoxide, carbon dioxide, hydrogen fluoride, oxides of nitrogen, perfluoroisobutylene, hexafluoropropylene, carbonyl fluoride, tetrafluoroethylene, and iron, chromium, nickel and zinc oxides.

SECTION 11. TOXICOLOGICAL INFORMATION

Potential Health Effects:

The hazardous components in this product are not volatile and bound in a polymer matrix so exposure to these chemicals does not occur under normal handling conditions. Dust may be generated while cutting or processing.

Eye Contact: Dust may cause mechanical irritation.

Skin Contact: May cause skin sensitization. Prolonged contact may result in defatting or drying of the skin.

Ingestion: No toxic effects are expected. Ingestion of large amounts may cause gastrointestinal irritation.

Inhalation: Inhalation of dust may cause throat and upper respiratory tract irritation. Inhalation of thermal decomposition of polytetrafluoroethylene may cause polymer fume fever with symptoms of tightness in the chest, fever, cough, shortness of breath and weakness. Severe exposures may cause pulmonary edema. Inhalation of zinc oxide may cause metal fume fever, characterized by metallic taste in the mouth and flu-like symptoms.

Chronic Hazards: Prolonged inhalation of dust that may be generated in processing may cause adverse lung effects. Prolonged inhalation of nickel dust or fumes may cause perforation of the nasal septum and lung damage. Prolonged or repeated exposure to iron fumes may cause siderosis (iron deposits in lungs).

Carcinogen: Carbon black is listed by IARC as possibly carcinogenic to humans, Group 2B. Metallic nickel is classified by IARC as possibly carcinogenic to humans (Group 2B) and by NTP as reasonably anticipated to be a carcinogen. None of the other components of this product are listed as a carcinogen by IARC, NTP or OSHA.

Acute Toxicity Data:

Kaolin: No toxicity data available
 Chromium: Oral rat LD50 >5000 mg/kg; Inhalation rat LC50 > 5.41 mg/L (structurally similar chemical)
 Fiberglass: No toxicity data available
 Graphite: Oral rat LD50 >2000 mg/kg, Inhalation LC50 >2.0 mg/L/4 hr (no mortalities occurred)
 Iron: Oral rat LD50 98.6 g/kg
 Mica: No toxicity data available
 Nickel: Oral rat LD50 >9000 mg/kg, Inhalation rat LC50 >10.2 mg/L/1 hr
 Polytetrafluoroethylene Resin: Oral rat LD50 >11,280 mg/kg
 Crystalline Silica, Quartz: Oral rat LD50 >22,500 mg/kg
 Zinc: Oral rat LD50 >2000 mg/kg, Inhalation rat LC50 >5.41 mg/L/4 hr

SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity:

Kaolin: No data available
 Chromium: No data available
 Fiberglass: 96 hr LC50 Danio rerio >1000 mg/L, 72 hr EC50 daphnia magna >1000 mg/L, 72 hr EC50
 Graphite: 96 hr LC50 Danio rerio >100 mg/kg, 48 hr EC50 daphnia magna >100 mg/L, 72 hr EC50
 Pseudokirchnerella subcapitata >100 mg/L
 Iron: No data available
 Mica: No data available
 Nickel: 96 hr LC50 Oncorhynchus mykiss 15.3 mg/L
 Polytetrafluoroethylene Resin: No data available
 Crystalline Silica, Quartz: No data available
 Zinc: 96 hr LC50 Pimephales promelas 780 ug/L, 48 hr EC50 daphnia magna 1833 ug/L, 72 hr IC50 150 ug/L

Persistence and degradability: No data available.

Bioaccumulative potential: No data available. Not expected to bioaccumulate.

Mobility in soil: No data available.

Other adverse effects: This product is an inert solid and is not expected to present any hazard to the environment under normal conditions.

SECTION 13. DISPOSAL CONSIDERATIONS

Waste Disposal Method: Dispose in accordance with all applicable local, state/provincial and federal regulations. Local regulations may be more stringent than regional and national requirements. It is the responsibility of the waste generator to determine the toxicity and physical characteristics of the material to determine the proper waste identification and disposal in compliance with applicable regulations.

SECTION 14. TRANSPORT INFORMATION

	UN Number	Proper shipping name	Hazard Class	Packing Group	Environmental Hazard
DOT		Not Regulated			

Transport in bulk (according to Annex II of MARPOL 73/78 and the IBC Code): Not applicable – product is transported only in packaged form.

Special precautions: None known.

SECTION 15. REGULATORY INFORMATION

Safety, health, and environmental regulations specific for the product in question.

EPA SARA 311 Hazard Classification: Acute Health, Chronic Health

EPA SARA 313 Chemicals: This product contain the following chemicals listed under SARA 313:

Nickel	7440-02-0	Proprietary
Chromium	7440-47-3	Proprietary
Zinc Compounds (Zinc)	7440-66-6	Proprietary

Hazardous Substance (40CFR 116) CERCLA: This product is not subject to CERCLA reporting requirements as it is sold. Many states have more stringent release reporting requirements. Report spills required under federal, state and local regulations.

California Proposition 65: This product contains the following chemicals known to the State of California to cause cancer and/or reproductive toxicity:

Nickel	7440-02-0	Proprietary	Cancer
Crystalline Silica, Quartz	14808-60-7	Proprietary	Cancer

SECTION 16. OTHER INFORMATION

NFPA Hazard Rating: Health: 0 Fire: 1 Reactivity: 0

HMIS Hazard Rating: Health: 1* Fire: 1 Reactivity: 0

* Chronic Health Hazard

DISCLAIMER – The information provided in this Safety Data Sheet is based on our current knowledge. While the information and recommendations set forth herein are believed to be accurate, Industries 3R takes no warranty with respect thereto and disclaims all liability in reliance thereon. We recommend testing according to local conditions. The specifications are subject to change without notice.