

### 1. Product and Company Identification

**Material name** Valve Pack CJ  
**Version #** 00  
**Issue date** 19-August-2013  
**Revision date** 19-August-2013  
**Supersedes date** -  
**Chemical name** Nickel lubricant / graphite  
**Chemical description** Valve Packing  
**CAS #** Mixture  
**Product code** 801-0026  
**Manufacturer information**  
**Manufacturer/Supplier** Team Industrial Services, Inc.  
**Address** 200 Hermann Drive, Alvin, Texas 77511, US  
**Emergency telephone number** CHEMTREC - 24 HOURS  
  
 USA: CHEMTREC: 800-424-9300  
 International: 703-527-3887 (Collect)

### 2. Hazards Identification

**Physical state** Solid.  
**Appearance** Black / grey fibrous mixture  
**Emergency overview** WARNING  
  
 May cause allergic skin reaction.  
**OSHA regulatory status** This product is considered hazardous under 29 CFR 1910.1200 (Hazard Communication).  
**Potential health effects**  
**Routes of exposure** Inhalation. Skin contact. Eye contact.  
**Eyes** Dust may irritate the eyes.  
**Skin** Dust may irritate skin. May cause allergic skin reaction.  
**Inhalation** May cause cancer by inhalation. Dust may irritate respiratory system.  
**Ingestion** Ingestion may cause irritation and malaise.  
**Target organs** Eyes. Lungs. Respiratory system. Skin.  
**Chronic effects** Possible cancer hazard - may cause cancer based on animal data. Nickel and its compounds are on the IARC (International Agency for Research on Cancer) and NTP (National Toxicology Program) lists as posing a cancer risk to humans. Nickel compounds are skin sensitizers with symptoms usually occurring after repeated exposure - ranging from a slight itch to severe dermatitis. Frequent inhalation of dust over a long period of time increases the risk of developing lung diseases. Pre-existing pulmonary disorders, such as emphysema, may possibly be aggravated by prolonged exposure to high concentrations of graphite and/or carbon dusts.  
**Signs and symptoms** Direct contact with eyes may cause temporary irritation.  
**Potential environmental effects** The product is not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.

### 3. Composition / Information on Ingredients

Components	CAS #	Percent
Aluminium hydroxide	21645-51-2	10-25
Aluminum oxide	1344-28-1	10-25
Graphite dust	7782-42-5	10-25
Carbon	7440-44-0	1-5

Components	CAS #	Percent
Nickel	7440-02-0	1-5

**Composition comments** All concentrations are in percent by weight unless ingredient is a gas. Gas concentrations are in percent by volume.

#### 4. First Aid Measures

##### First aid procedures

**Eye contact** Flush thoroughly with water. If irritation occurs, get medical assistance.

**Skin contact** Remove contaminated clothing immediately and wash skin with soap and water. In case of eczema or other skin disorders: Seek medical attention and take along these instructions.

**Inhalation** Remove victim to fresh air. If breathing is difficult, give oxygen. Get medical attention.

**Ingestion** Rinse mouth and drink plenty of water. Only induce vomiting at the instruction of medical personnel. Get medical attention if any discomfort occurs.

**Notes to physician** Treat symptomatically.

**General advice** Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves.

#### 5. Fire Fighting Measures

**Flammable properties** Dust may form explosive mixture with air.

##### Extinguishing media

**Suitable extinguishing media** Water spray, foam, dry powder or carbon dioxide.

**Unsuitable extinguishing media** No restrictions known.

##### Protection of firefighters

**Specific hazards arising from the chemical** During fire, gases hazardous to health may be formed.

**Protective equipment and precautions for firefighters** Selection of respiratory protection for firefighting: follow the general fire precautions indicated in the workplace. Self-contained breathing apparatus and full protective clothing must be worn in case of fire.

**Fire fighting equipment/instructions** Use standard firefighting procedures and consider the hazards of other involved materials. Cool material exposed to heat with water spray and remove it if no risk is involved.

**Hazardous combustion products** Carbon oxides. Nickel oxides.

#### 6. Accidental Release Measures

**Personal precautions** Do not inhale this material. Avoid prolonged and repeated contact. See Section 8 of the MSDS for Personal Protective Equipment.

**Environmental precautions** Avoid discharge into drains, water courses or onto the ground.

**Methods for containment** Prevent entry into waterways, sewer, basements or confined areas.

**Methods for cleaning up** Collect and dispose of spillage as indicated in Section 13 of the MSDS.

**Other information** Clean up in accordance with all applicable regulations.

#### 7. Handling and Storage

**Handling** Mechanical ventilation or local exhaust ventilation is recommended. Should be handled in closed systems, if possible. Do not inhale this material. Provide adequate ventilation. Avoid prolonged and repeated contact. Observe good industrial hygiene practices.

**Storage** Store in closed original container in a dry place.

#### 8. Exposure Controls / Personal Protection

##### Occupational exposure limits

###### US. ACGIH Threshold Limit Values

Components	Type	Value	Form
Aluminium hydroxide (CAS 21645-51-2)	TWA	1 mg/m <sup>3</sup>	Respirable fraction.

**US. ACGIH Threshold Limit Values**

Components	Type	Value	Form
Aluminum oxide (CAS 1344-28-1)	TWA	1 mg/m3	Respirable fraction.
Carbon (CAS 7440-44-0)	TWA	2 mg/m3	Respirable fraction.
Graphite dust (CAS 7782-42-5)	TWA	2 mg/m3	Respirable fraction.
Nickel (CAS 7440-02-0)	TWA	1.5 mg/m3	Inhalable fraction.

**US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)**

Components	Type	Value	Form
Aluminum oxide (CAS 1344-28-1)	PEL	5 mg/m3	Respirable fraction.
Carbon (CAS 7440-44-0)	PEL	15 mg/m3 5 mg/m3	Total dust. Respirable fraction.
Graphite dust (CAS 7782-42-5)	PEL	15 mg/m3 5 mg/m3	Total dust. Respirable fraction.
Nickel (CAS 7440-02-0)	PEL	15 mg/m3 1 mg/m3	Total dust.

**US. OSHA Table Z-3 (29 CFR 1910.1000)**

Components	Type	Value
Carbon (CAS 7440-44-0)	TWA	15 millions of particle
Graphite dust (CAS 7782-42-5)	TWA	15 millions of particle

**Canada. Alberta OELs (Occupational Health & Safety Code, Schedule 1, Table 2)**

Components	Type	Value	Form
Aluminum oxide (CAS 1344-28-1)	TWA	10 mg/m3	
Carbon (CAS 7440-44-0)	TWA	2 mg/m3	Respirable.
Graphite dust (CAS 7782-42-5)	TWA	2 mg/m3	Respirable.
Nickel (CAS 7440-02-0)	TWA	1.5 mg/m3	

**Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended)**

Components	Type	Value	Form
Aluminium hydroxide (CAS 21645-51-2)	TWA	1 mg/m3	Respirable.
Aluminum oxide (CAS 1344-28-1)	TWA	1 mg/m3	Respirable.
Carbon (CAS 7440-44-0)	TWA	2 mg/m3	Respirable.
Graphite dust (CAS 7782-42-5)	TWA	2 mg/m3	Respirable.
Nickel (CAS 7440-02-0)	TWA	0.05 mg/m3	

**Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents)**

Components	Type	Value	Form
Aluminium hydroxide (CAS 21645-51-2)	TWA	1 mg/m3	Respirable fraction.
Aluminum oxide (CAS 1344-28-1)	TWA	1 mg/m3	Respirable fraction.
Carbon (CAS 7440-44-0)	TWA	2 mg/m3	Respirable fraction.
Graphite dust (CAS 7782-42-5)	TWA	2 mg/m3	Respirable fraction.
Nickel (CAS 7440-02-0)	TWA	1 mg/m3	Inhalable

**Canada. Quebec OELs. (Ministry of Labor - Regulation Respecting the Quality of the Work Environment)**

<b>Components</b>	<b>Type</b>	<b>Value</b>	<b>Form</b>
Aluminum oxide (CAS 1344-28-1)	TWA	10 mg/m3	Total dust.
Carbon (CAS 7440-44-0)	TWA	2 mg/m3	Respirable dust.
Graphite dust (CAS 7782-42-5)	TWA	2 mg/m3	Respirable dust.
Nickel (CAS 7440-02-0)	TWA	1 mg/m3	

**Mexico. Occupational Exposure Limit Values**

<b>Components</b>	<b>Type</b>	<b>Value</b>
Aluminum oxide (CAS 1344-28-1)	TWA	10 mg/m3
Carbon (CAS 7440-44-0)	TWA	10 mg/m3
Graphite dust (CAS 7782-42-5)	TWA	10 mg/m3
Nickel (CAS 7440-02-0)	TWA	1 mg/m3

<b>Engineering controls</b>	Provide adequate ventilation. Observe occupational exposure limits and minimize the risk of inhalation of dust.
<b>Personal protective equipment</b>	
<b>Eye / face protection</b>	Risk of contact: Wear approved safety glasses or goggles.
<b>Skin protection</b>	Where skin contact is likely, wear chemical impervious gloves. In accordance with good industrial hygiene practices, precautions should be taken to avoid skin contact.
<b>Respiratory protection</b>	If engineering controls do not maintain airborne concentrations below recommended exposure limits (where applicable) or to an acceptable level (in countries where exposure limits have not been established), an approved respirator must be worn. In the United States of America, if respirators are used, a program should be instituted to assure compliance with OSHA 29 CFR 1910.134. If airborne concentrations are above the applicable exposure limits, use NIOSH approved respiratory protection.
<b>General hygiene considerations</b>	Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants. Observe any medical surveillance requirements.

**9. Physical & Chemical Properties**

<b>Appearance</b>	Black / grey fibrous mixture
<b>Physical state</b>	Solid. <b>Form</b> Fibrous.
<b>Color</b>	Grey/black.
<b>Odor</b>	Not available.
<b>Odor threshold</b>	Not available.
<b>pH</b>	Not applicable.
<b>Vapor pressure</b>	< 10 mm Hg
<b>Vapor density</b>	Not available.
<b>Boiling point</b>	> 600 °F (> 315.56 °C)
<b>Melting point/Freezing point</b>	Not available.
<b>Solubility (water)</b>	Slightly soluble in water.
<b>Specific gravity</b>	Not available.
<b>Flash point</b>	450.0 °F (232.2 °C) Cleveland Closed Cup
<b>Flammability limits in air, upper, % by volume</b>	Not available.
<b>Flammability limits in air, lower, % by volume</b>	Not available.
<b>Auto-ignition temperature</b>	Not available.
<b>Viscosity</b>	Not Applicable.

## 10. Chemical Stability & Reactivity Information

<b>Chemical stability</b>	Material is stable under normal conditions.
<b>Conditions to avoid</b>	Avoid dust formation. Dust clouds may be explosive under certain conditions.
<b>Incompatible materials</b>	Strong oxidizing agents. Strong acids.
<b>Hazardous decomposition products</b>	Carbon oxides. Nickel oxide.
<b>Possibility of hazardous reactions</b>	Will not occur.

## 11. Toxicological Information

### Toxicological data

Components	Species	Test Results
Aluminium hydroxide (CAS 21645-51-2)		
<b>Acute</b>		
<i>Oral</i>		
LD50	Rat	> 5000 mg/kg
Carbon (CAS 7440-44-0)		
<b>Acute</b>		
<i>Oral</i>		
LD50	Rat	> 10000 mg/kg
Graphite dust (CAS 7782-42-5)		
<b>Acute</b>		
<i>Oral</i>		
LD50	Rat	> 10000 mg/kg
<i>Other</i>		
LD50	Mouse	440 mg/kg

<b>Sensitization</b>	May cause allergic skin reaction.
<b>Acute effects</b>	Dust may cause eye, skin and respiratory tract irritation.
<b>Local effects</b>	Dusts may irritate the respiratory tract, skin and eyes.
<b>Chronic effects</b>	Contains nickel, which can cause lung or nasal cancer. Long-term breathing of this material may cause chronic lung disease.
<b>Carcinogenicity</b>	Possible cancer hazard - may cause cancer based on animal data.

#### ACGIH Carcinogens

Aluminium hydroxide (CAS 21645-51-2)	A4 Not classifiable as a human carcinogen.
Aluminum oxide (CAS 1344-28-1)	A4 Not classifiable as a human carcinogen.
Nickel (CAS 7440-02-0)	A5 Not suspected as a human carcinogen.

#### IARC Monographs. Overall Evaluation of Carcinogenicity

Nickel (CAS 7440-02-0)	2B Possibly carcinogenic to humans.
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#### US NTP Report on Carcinogens: Anticipated carcinogen

Nickel (CAS 7440-02-0)	Reasonably Anticipated to be a Human Carcinogen.
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#### US NTP Report on Carcinogens: Known carcinogen

Nickel (CAS 7440-02-0)	Known To Be Human Carcinogen.
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<b>Mutagenicity</b>	Not expected to be mutagenic.
<b>Neurological effects</b>	No data available.
<b>Reproductive effects</b>	No test data available for the product.
<b>Teratogenicity</b>	No data available.
<b>Symptoms and target organs</b>	Direct contact with eyes may cause temporary irritation.
<b>Further information</b>	None known.

## 12. Ecological Information

### Ecotoxicological data

Product		Species	Test Results
Valve Pack CJ (CAS Mixture)			
<b>Aquatic</b>			
Fish	LC50	Fish	2770.3141 mg/l, 96 hours, estimated
<b>Components</b>		<b>Species</b>	<b>Test Results</b>

Nickel (CAS 7440-02-0)

<b>Aquatic</b>			
Fish	LC50	Fathead minnow (Pimephales promelas)	2.916 mg/l, 96 hours

<b>Ecotoxicity</b>	The product contains a substance which is harmful to aquatic organisms and which may cause long-term adverse effects in the aquatic environment.
<b>Environmental effects</b>	An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.
<b>Persistence and degradability</b>	No data available.
<b>Bioaccumulation / Accumulation</b>	No data available.
<b>Partition coefficient</b>	No data available.
<b>Mobility in environmental media</b>	The product is insoluble in water and will sediment in water systems.

## 13. Disposal Considerations

<b>Disposal instructions</b>	Dispose in accordance with all applicable regulations. This material and/or its container must be disposed of as hazardous waste.
<b>Waste from residues / unused products</b>	Dispose of in accordance with local regulations.
<b>Contaminated packaging</b>	Dispose of in accordance with local regulations.

## 14. Transport Information

### DOT

Not regulated as a hazardous material by DOT.

### IATA

Not regulated as dangerous goods.

### IMDG

Not regulated as dangerous goods.

### TDG

Not regulated as dangerous goods.

## 15. Regulatory Information

**US federal regulations** This product is hazardous according to OSHA 29 CFR 1910.1200.

### TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

Not regulated.

### Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List

Nickel (CAS 7440-02-0)

### US EPCRA (SARA Title III) Section 313 - Toxic Chemical: De minimis concentration

Aluminum oxide (CAS 1344-28-1) 1.0 %

Nickel (CAS 7440-02-0) 0.1 %

### US EPCRA (SARA Title III) Section 313 - Toxic Chemical: Listed substance

Aluminum oxide (CAS 1344-28-1) Listed.

Nickel (CAS 7440-02-0) Listed.

### CERCLA (Superfund) reportable quantity (lbs) (40 CFR 302.4)

Nickel: 100

## Superfund Amendments and Reauthorization Act of 1986 (SARA)

<b>Hazard categories</b>	Immediate Hazard - Yes Delayed Hazard - Yes Fire Hazard - No Pressure Hazard - No Reactivity Hazard - No
<b>Section 302 extremely hazardous substance (40 CFR 355, Appendix A)</b>	No
<b>SARA 311/312 Hazardous chemical</b>	Yes
<b>Drug Enforcement Administration (DEA) (21 CFR 1308.11-15)</b>	Not controlled
<b>Canadian regulations</b>	This product has been classified in accordance with hazard criteria of the Controlled Products Regulations and the MSDS contains all the information required by the Controlled Products Regulations.
<b>WHMIS status</b>	Controlled
<b>WHMIS classification</b>	D2A - Other Toxic Effects-VERY TOXIC D2B - Other Toxic Effects-TOXIC

### WHMIS labeling



### Inventory status

Country(s) or region	Inventory name	On inventory (yes/no)*
Australia	Australian Inventory of Chemical Substances (AICS)	Yes
Canada	Domestic Substances List (DSL)	Yes
Canada	Non-Domestic Substances List (NDSL)	No
China	Inventory of Existing Chemical Substances in China (IECSC)	Yes
Europe	European Inventory of Existing Commercial Chemical Substances (EINECS)	Yes
Europe	European List of Notified Chemical Substances (ELINCS)	No
Japan	Inventory of Existing and New Chemical Substances (ENCS)	No
Korea	Existing Chemicals List (ECL)	Yes
New Zealand	New Zealand Inventory	Yes
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	Yes
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

\*A "Yes" indicates this product complies with the inventory requirements administered by the governing country(s).

A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

### State regulations

WARNING: This product contains chemical(s) known to the State of California to cause cancer.

#### US - California Hazardous Substances (Director's): Listed substance

Aluminum oxide (CAS 1344-28-1)	Listed.
Carbon (CAS 7440-44-0)	Listed.
Graphite dust (CAS 7782-42-5)	Listed.
Nickel (CAS 7440-02-0)	Listed.

#### US - California Proposition 65 - Carcinogens & Reproductive Toxicity (CRT): Listed substance

Nickel (CAS 7440-02-0)	Listed.
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#### US - California Proposition 65 - CRT: Listed date/Carcinogenic substance

Nickel (CAS 7440-02-0)	Listed: October 1, 1989 Carcinogenic.
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#### US - New Jersey RTK - Substances: Listed substance

Aluminum oxide (CAS 1344-28-1)	Listed.
Carbon (CAS 7440-44-0)	Listed.
Graphite dust (CAS 7782-42-5)	Listed.
Nickel (CAS 7440-02-0)	Listed.

**US - Pennsylvania RTK - Hazardous Substances: All compounds of this substance are considered environmental hazards**

Nickel (CAS 7440-02-0) LISTED

**US - Pennsylvania RTK - Hazardous Substances: Special hazard**

Nickel (CAS 7440-02-0) Special hazard.

**US. Massachusetts RTK - Substance List**

Aluminum oxide (CAS 1344-28-1) Listed.

Graphite dust (CAS 7782-42-5) Listed.

Nickel (CAS 7440-02-0) Listed.

**US. New Jersey Worker and Community Right-to-Know Act**

Aluminum oxide (CAS 1344-28-1) 500 lbs

Nickel (CAS 7440-02-0) 500 lbs

**US. Pennsylvania RTK - Hazardous Substances**

Aluminum oxide (CAS 1344-28-1) Listed.

Graphite dust (CAS 7782-42-5) Listed.

Nickel (CAS 7440-02-0) Listed.

**16. Other Information**

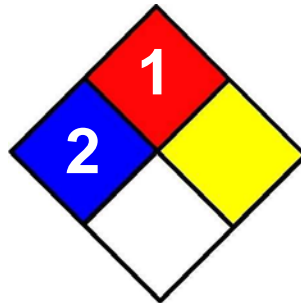
**Further information**

B - Safety Glasses, Gloves  
HMIS® is a registered trade and service mark of the NPCA.

**HMIS® ratings**

Health: 2\*  
Flammability: 1

**NFPA Ratings**



**Disclaimer**

The information in the sheet was written based on the best knowledge and experience currently available.