TEAM® Industrial Services

SAFETY DATA SHEET

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Trade name or designation of the mixture	Valve Pack CJ
Registration number	-
Synonyms	None.
Product code	801-0026
Issue date	19-August-2013
Version number	00
Revision date	19-August-2013
Supersedes date	-

1.2. Relevant identified uses of the substance or mixture and uses advised against

Identified uses	Not available.
Uses advised against	None known.

1.3. Details of the supplier of the safety data sheet

Manufacturer/Supplier	Team Industrial Services, Inc.
Address	Postbus 37 4380 AA Vlissingen 3237 The Netherlands
Telephone	+31 (0) 118 48 58 00
Fax	+31 (0) 118 48 58 86
e-mail	Not available.
Contact person	Not available.
1.4. Emergency telephone number	+(61)-290372994, +1 703-527-3887

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

The mixture has been assessed and/or tested for its physical, health and environmental hazards and the following classification applies.

Classification according to Directive 67/548/EEC or 1999/45/EC as amended

This preparation is classified as dangerous according to Directive 1999/45/EC and its amendments.

Classification Carc. Cat. 3;R40, Xn;R48/20, R43

The full text for all R-phrases is displayed in Section 16.

Classification according to Regulation (EC) No 1272/2008 as amended

Health hazards

Skin sensitisation	Category 1	H317 - May cause an allergic skin reaction.
Carcinogenicity	Category 2	H351 - Suspected of causing cancer.
Specific target organ toxicity - repeated exposure	Category 2 (Respiratory system)	H373 - May cause damage to organs (Respiratory system) through prolonged or repeated exposure. H373 - May cause damage to organs (Respiratory system) through prolonged or repeated exposure by inhalation.

Hazard summary

Physical hazards	Not classified for physical hazards.
Health hazards	Limited evidence of a carcinogenic effect. May cause sensitisation by skin contact. Harmful: danger of serious damage to health by prolonged exposure through inhalation.
Environmental hazards	Not classified for hazards to the environment.
Specific hazards	Pre-existing pulmonary disorders, such as emphysema, may possibly be aggravated by prolonged exposure to high concentrations of graphite and/or carbon dusts. May cause cancer by inhalation.
Main symptoms	Direct contact with eyes may cause temporary irritation.

2.2. Label elements

Label according to Regulation (EC) No. 1272/2008 as amended

Contains: Carbon, Nickel

Hazard pictograms

Signal word Warning

Hazard statements
H317 - May cause an allergic skin reaction.
H351 - Suspected of causing cancer.
H373 - May cause damage to organs (Respiratory system) through prolonged or repeated exposure.
H373 - May cause damage to organs (Respiratory system) through prolonged or repeated exposure by inhalation.

Precautionary statements

Prevention
P201 - Obtain special instructions before use.
P261 - Avoid breathing dust.
P272 - Contaminated work clothing should not be allowed out of the workplace.
P280 - Wear protective gloves.
P202 - Do not handle until all safety precautions have been read and understood.

Response
P302 + P350 - IF ON SKIN: Gently wash with plenty of soap and water.
P333 + P313 - If skin irritation or rash occurs: Get medical advice/attention.
P363 - Wash contaminated clothing before reuse.
P308 + P313 - IF exposed or concerned: Get medical advice/attention.

Storage P405 - Store locked up.

Disposal Dispose of contents in accordance with local/regional/national/international regulations.

Supplemental label information Not applicable.

2.3. Other hazards Dust may irritate the respiratory tract, skin and eyes.

SECTION 3: Composition/information on ingredients

3.2. Mixtures

General information

Chemical name	%	CAS-No. / EC No.	REACH Registration No.	INDEX No.	Notes
Aluminium hydroxide	10-25	21645-51-2 244-492-7	-	-	
Classification: **DSD:** - **CLP:** -					
Aluminium oxide	10-25	1344-28-1 215-691-6	-	-	
Classification: **DSD:** - **CLP:** -					
Graphite dust	10-25	7782-42-5 231-955-3	-	-	
Classification: **DSD:** - **CLP:** -					
Carbon	1-5	7440-44-0 231-153-3	-	-	
Classification: **DSD:** - **CLP:** -					

Chemical name	%	CAS-No. / EC No.	REACH Registration No.	INDEX No.	Notes
Nickel	1-5	7440-02-0 231-111-4	-	028-002-00-7	
Classification:	**DSD:**	Carc. Cat. 3;R40, T;R48/23, R43, R52/53			
	CLP:	Skin Sens. 1;H317, Carc. 2;H351, STOT RE 1;H372			

#: This substance has workplace exposure limit(s).
CLP: Regulation No. 1272/2008.
DSD: Directive 67/548/EEC.

Composition comments The full text for all R-phrases is displayed in section 16 of the SDS. All concentrations are in percent by weight unless ingredient is a gas. Gas concentrations are in percent by volume.

SECTION 4: First aid measures

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

4.1. Description of first aid measures

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

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.

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

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

4.2. Most important symptoms and effects, both acute and delayed May cause damage to organs () through prolonged or repeated exposure. Direct contact with eyes may cause temporary irritation.

4.3. Indication of any immediate medical attention and special treatment needed Treat symptomatically.

SECTION 5: Firefighting measures

General fire hazards Dust may form explosive mixture with air.

5.1. Extinguishing media

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

Unsuitable extinguishing media No restrictions known.

5.2. Special hazards arising from the substance or mixture During fire, gases hazardous to health may be formed.

5.3. Advice for firefighters

Special protective equipment 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.

Special fire fighting procedures 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.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

For non-emergency personnel Do not inhale this material. Avoid prolonged and repeated contact.

For emergency responders Use personal protection as recommended in section 8 of the SDS.

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

6.3. Methods and material for containment and cleaning up Collect and dispose of spillage as indicated in section 13 of the SDS.

6.4. Reference to other sections For personal protection, see section 8 of the SDS. For waste disposal, see section 13 of the SDS.

SECTION 7: Handling and storage

7.1. Precautions for safe 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.

7.2. Conditions for safe storage, including any incompatibilities Store in closed original container in a dry place.

7.3. Specific end use(s) Industrial Leak Sealant.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Occupational exposure limits

Austria. MAK List

Components	Type	Value	Form
Aluminium hydroxide (CAS 21645-51-2)	MAK	5 mg/m3	Respirable fraction.
		10 mg/m3	Inhalable fraction.
	STEL	20 mg/m3	Inhalable fraction.
		10 mg/m3	Respirable fraction.
Aluminium oxide (CAS 1344-28-1)	MAK	5 mg/m3	Respirable fume.
		5 mg/m3	Respirable fraction.
		10 mg/m3	Inhalable fraction.
	STEL	20 mg/m3	Inhalable fraction.
		10 mg/m3	Respirable fume.
		10 mg/m3	Respirable fraction.
Carbon (CAS 7440-44-0)	MAK	5 mg/m3	Respirable dust.
	STEL	10 mg/m3	Respirable dust.
Graphite dust (CAS 7782-42-5)	MAK	5 mg/m3	Respirable dust.
	STEL	10 mg/m3	Respirable dust.

Austria. TRK List

Components	Type	Value	Form
Nickel (CAS 7440-02-0)	STEL	2 mg/m3	Inhalable dust.
	TWA	0,5 mg/m3	Inhalable dust.

Belgium. Exposure Limit Values.

Components	Type	Value	Form
Aluminium 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	

Bulgaria. OELs. Regulation No 13 on protection of workers against risks of exposure to chemical agents at work

Components	Type	Value	Form
Aluminium oxide (CAS 1344-28-1)	TWA	10 mg/m3	Dust.
		1,5 mg/m3	Respirable fraction.
Carbon (CAS 7440-44-0)	TWA	5 mg/m3	Inhalable fraction.
Graphite dust (CAS 7782-42-5)	TWA	5 mg/m3	Inhalable fraction.
Nickel (CAS 7440-02-0)	TWA	0,05 mg/m3	

Cyprus. OELs. Control of factory atmosphere and dangerous substances in factories regulation, PI 311/73, as amended.

Components	Type	Value
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

Czech Republic. OELs. Government Decree 361

Components	Type	Value	Form
Aluminium oxide (CAS 1344-28-1)	TWA	0,1 mg/m3	Respirable dust.
Carbon (CAS 7440-44-0)	TWA	10 mg/m3	Total dust.

Czech Republic. OELs. Government Decree 361

Components	Type	Value	Form
		10 mg/m3	Respirable dust.
Graphite dust (CAS 7782-42-5)	TWA	10 mg/m3	Respirable dust.
		10 mg/m3	Total dust.
Nickel (CAS 7440-02-0)	Ceiling	1 mg/m3	
	TWA	0,5 mg/m3	

Denmark. Exposure Limit Values

Components	Type	Value	Form
Aluminium oxide (CAS 1344-28-1)	TLV	5 mg/m3	Total
		2 mg/m3	Respirable.
Carbon (CAS 7440-44-0)	TLV	2,5 mg/m3	Respirable.
Graphite dust (CAS 7782-42-5)	TLV	2,5 mg/m3	Respirable.
Nickel (CAS 7440-02-0)	TLV	0,05 mg/m3	Dust.

Estonia. OELs. Occupational Exposure Limits of Hazardous Substances. (Annex of Regulation No. 293 of 18 September 2001)

Components	Type	Value	Form
Aluminium oxide (CAS 1344-28-1)	TWA	4 mg/m3	Respirable dust.
		10 mg/m3	Total dust.
Carbon (CAS 7440-44-0)	TWA	3 mg/m3	Dust.
Graphite dust (CAS 7782-42-5)	TWA	5 mg/m3	Dust.
Nickel (CAS 7440-02-0)	TWA	0,5 mg/m3	

Finland. Workplace Exposure Limits

Components	Type	Value
Carbon (CAS 7440-44-0)	TWA	2 mg/m3
Graphite dust (CAS 7782-42-5)	TWA	2 mg/m3
Nickel (CAS 7440-02-0)	TWA	1 mg/m3

France. Threshold Limit Values (VLEP) for Occupational Exposure to Chemicals in France, INRS ED 984

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

Germany. DFG MAK List (advisory OELs). Commission for the Investigation of Health Hazards of Chemical Compounds in the Work Area (DFG)

Components	Type	Value	Form
Aluminium hydroxide (CAS 21645-51-2)	TWA	4 mg/m3	Inhalable dust.
		1,5 mg/m3	Respirable dust.
Aluminium oxide (CAS 1344-28-1)	TWA	4 mg/m3	Inhalable dust.
		1,5 mg/m3	Respirable dust.
Carbon (CAS 7440-44-0)	TWA	4 mg/m3	Inhalable fraction.
		1,5 mg/m3	Respirable fraction.
Graphite dust (CAS 7782-42-5)	TWA	4 mg/m3	Inhalable fraction.
		1,5 mg/m3	Respirable fraction.

Germany. TRGS 900, Limit Values in the Ambient Air at the Workplace

Components	Type	Value	Form
Aluminium hydroxide (CAS 21645-51-2)	AGW	3 mg/m3	Respirable fraction.

Germany. TRGS 900, Limit Values in the Ambient Air at the Workplace

Components	Type	Value	Form
		10 mg/m3	Inhalable fraction.
Aluminium oxide (CAS 1344-28-1)	AGW	3 mg/m3	Respirable fraction.
		10 mg/m3	Inhalable fraction.
Carbon (CAS 7440-44-0)	AGW	3 mg/m3	Respirable fraction.
		10 mg/m3	Inhalable fraction.
Graphite dust (CAS 7782-42-5)	AGW	3 mg/m3	Respirable fraction.
		10 mg/m3	Inhalable fraction.

Greece. OELs (Decree No. 90/1999, as amended)

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

Hungary. OELs. Joint Decree on Chemical Safety of Workplaces

Components	Type	Value	Form
Aluminium oxide (CAS 1344-28-1)	TWA	6 mg/m3	Respirable.
Nickel (CAS 7440-02-0)	Ceiling	0,1 mg/m3	

Iceland. OELs. Regulation 154/1999 on occupational exposure limits

Components	Type	Value	Form
Aluminium oxide (CAS 1344-28-1)	TWA	10 mg/m3	
Carbon (CAS 7440-44-0)	TWA	5 mg/m3	Total dust.
		2,5 mg/m3	Respirable dust.
Graphite dust (CAS 7782-42-5)	TWA	5 mg/m3	Total dust.
		2,5 mg/m3	Respirable dust.
Nickel (CAS 7440-02-0)	TWA	0,05 mg/m3	Dust.

Ireland. Occupational Exposure Limits

Components	Type	Value	Form
Aluminium oxide (CAS 1344-28-1)	TWA	4 mg/m3	Respirable dust.
		10 mg/m3	Total inhalable dust.
Carbon (CAS 7440-44-0)	TWA	4 mg/m3	Respirable dust.
		10 mg/m3	Total inhalable dust.
Graphite dust (CAS 7782-42-5)	TWA	4 mg/m3	Respirable dust.
		10 mg/m3	Total inhalable dust.
Nickel (CAS 7440-02-0)	TWA	0,5 mg/m3	

Italy. OELs

Components	Type	Value	Form
Aluminium hydroxide (CAS 21645-51-2)	TWA	1 mg/m3	Respirable fraction.
Aluminium 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.

Latvia. OELs. Occupational exposure limit values of chemical substances in work environment

Components	Type	Value	Form
Aluminium hydroxide (CAS 21645-51-2)	TWA	6 mg/m3	
Aluminium oxide (CAS 1344-28-1)	TWA	6 mg/m3	Decomposition aerosol.
		4 mg/m3	
Carbon (CAS 7440-44-0)	TWA	2 mg/m3	Dust.
Graphite dust (CAS 7782-42-5)	TWA	2 mg/m3	Dust.
Nickel (CAS 7440-02-0)	TWA	0,05 mg/m3	

Lithuania. OELs. Limit Values for Chemical Substances, General Requirements (Hygiene Norm HN 23:2007)

Components	Type	Value	Form
Aluminium hydroxide (CAS 21645-51-2)	TWA	6 mg/m3	
Aluminium oxide (CAS 1344-28-1)	TWA	5 mg/m3	Inhalable fraction.
		2 mg/m3	Respirable fraction.
Carbon (CAS 7440-44-0)	TWA	3 mg/m3	Dust.
Graphite dust (CAS 7782-42-5)	TWA	3 mg/m3	Dust.
Nickel (CAS 7440-02-0)	TWA	0,5 mg/m3	

Norway. Administrative Norms for Contaminants in the Workplace

Components	Type	Value	Form
Aluminium oxide (CAS 1344-28-1)	TLV	10 mg/m3	
Carbon (CAS 7440-44-0)	TLV	2 mg/m3	Respirable dust.
		10 mg/m3	Total dust.
Graphite dust (CAS 7782-42-5)	TLV	2 mg/m3	Respirable dust.
		10 mg/m3	Total dust.
Nickel (CAS 7440-02-0)	TLV	0,05 mg/m3	

Poland. MACs. Minister of Labour and Social Policy Regarding Maximum Allowable Concentrations and Intensities in Working Environment

Components	Type	Value	Form
Aluminium hydroxide (CAS 21645-51-2)	TWA	2,5 mg/m3	Fume, total dust.
		1,2 mg/m3	Respirable dust and/or fume.
Aluminium oxide (CAS 1344-28-1)	TWA	2,5 mg/m3	Fume, total dust.
		1,2 mg/m3	Respirable dust and/or fume.
Carbon (CAS 7440-44-0)	TWA	4 mg/m3	Total dust.
		1 mg/m3	Respirable dust.
Graphite dust (CAS 7782-42-5)	TWA	4 mg/m3	Total dust.
		1 mg/m3	Respirable dust.
Nickel (CAS 7440-02-0)	TWA	0,25 mg/m3	

Portugal. VLEs. Norm on occupational exposure to chemical agents (NP 1796)

Components	Type	Value	Form
Aluminium oxide (CAS 1344-28-1)	TWA	10 mg/m3	
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.

Romania. OELs. Protection of workers from exposure to chemical agents at the workplace

Components	Type	Value	Form
Aluminium oxide (CAS 1344-28-1)	STEL	5 mg/m3	Aerosol

Romania. OELs. Protection of workers from exposure to chemical agents at the workplace

Components	Type	Value	Form
		1,2 ppm	Aerosol
	TWA	2 mg/m3	Aerosol
		0,5 ppm	Aerosol
Nickel (CAS 7440-02-0)	STEL	0,5 mg/m3	
	TWA	0,1 mg/m3	

Slovakia. OELs. Decree of the government of the Slovak Republic concerning protection of health in work with chemical agents

Components	Type	Value	Form
Aluminium hydroxide (CAS 21645-51-2)	TWA	4 mg/m3	Inhalable fraction.
		1,5 mg/m3	Respirable fraction.
Aluminium oxide (CAS 1344-28-1)	TWA	4 mg/m3	Inhalable fraction.
		1,5 mg/m3	Respirable fraction.
		0,1 mg/m3	
Carbon (CAS 7440-44-0)	TWA	2 mg/m3	Respirable fraction.
		10 mg/m3	Total
Graphite dust (CAS 7782-42-5)	TWA	2 mg/m3	Respirable fraction.
		10 mg/m3	Total

Slovenia. OELs. Regulations concerning protection of workers against risks due to exposure to chemicals while working (Official Gazette of the Republic of Slovenia)

Components	Type	Value	Form
Nickel (CAS 7440-02-0)	TWA	0,5 mg/m3	Inhalable fraction.

Spain. Occupational Exposure Limits

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

Sweden. Occupational Exposure Limit Values

Components	Type	Value	Form
Aluminium oxide (CAS 1344-28-1)	TWA	5 mg/m3	Total dust.
		2 mg/m3	Respirable dust.
Carbon (CAS 7440-44-0)	TWA	0,2 fibers/mL	
		5 mg/m3	Total dust.
Graphite dust (CAS 7782-42-5)	TWA	0,2 fibers/mL	
		5 mg/m3	Total dust.
Nickel (CAS 7440-02-0)	TWA	0,5 mg/m3	Total dust.

Switzerland. SUVA Grenzwerte am Arbeitsplatz

Components	Type	Value	Form
Aluminium hydroxide (CAS 21645-51-2)	TWA	3 mg/m3	Respirable dust.
Aluminium oxide (CAS 1344-28-1)	STEL	24 mg/m3	Fume and respirable dust.
	TWA	3 mg/m3	Fume and respirable dust.
		3 mg/m3	Respirable dust.
Carbon (CAS 7440-44-0)	TWA	5 mg/m3	Inhalable dust.
		2,5 mg/m3	Respirable dust.
Graphite dust (CAS 7782-42-5)	TWA	5 mg/m3	Inhalable dust.
		2,5 mg/m3	Respirable dust.
Nickel (CAS 7440-02-0)	TWA	0,5 mg/m3	Inhalable dust.

UK. EH40 Workplace Exposure Limits (WELs)

Components	Type	Value	Form
Aluminium oxide (CAS 1344-28-1)	TWA	4 mg/m3	Respirable dust.
		10 mg/m3	Inhalable dust.
Carbon (CAS 7440-44-0)	TWA	4 mg/m3	Respirable dust.
		10 mg/m3	Inhalable dust.
Graphite dust (CAS 7782-42-5)	TWA	4 mg/m3	Respirable dust.
		10 mg/m3	Inhalable dust.
Nickel (CAS 7440-02-0)	TWA	0,5 mg/m3	

Biological limit values

Germany. TRGS 903, BAT List (Biological Limit Values)

Components	Value	Determinant	Specimen	Sampling time
Aluminium hydroxide (CAS 21645-51-2)	200 µg/l	Aluminium	Urine	*
Aluminium oxide (CAS 1344-28-1)	200 µg/l	Aluminium	Urine	*

* - For sampling details, please see the source document.

Hungary. Chemical Safety at Workplace Ordinance Joint Decree No. 25/2000 (Annex 2): Permissible limit values of biological exposure (effect) indices

Components	Value	Determinant	Specimen	Sampling time
Nickel (CAS 7440-02-0)	0,02 mg/g	Nickel	Creatinine in urine	*

* - For sampling details, please see the source document.

Switzerland. BAT-Werte (Biological Limit Values in the Workplace as per SUVA)

Components	Value	Specimen	Sampling time
Nickel (CAS 7440-02-0)	45 µg/l	Urine	*

* - For sampling details, please see the source document.

Recommended monitoring procedures Follow standard monitoring procedures.

Derived no-effect level (DNEL) Not available.

Predicted no effect concentrations (PNECs) Not available.

8.2. Exposure controls

Appropriate engineering controls Provide adequate ventilation. Observe occupational exposure limits and minimise the risk of inhalation of dust.

Individual protection measures, such as personal protective equipment

General information Personal protective equipment should be chosen according to the CEN standards and in discussion with the supplier of the personal protective equipment.

Eye/face protection Risk of contact: Wear approved safety glasses or goggles.

Skin protection

- Hand protection Wear protective gloves.

- Other Where skin contact is likely, wear chemical impervious gloves. In accordance with good industrial hygiene practices, precautions should be taken to avoid skin contact.

Respiratory protection 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. Use respiratory equipment with particle filter, type P2.

Thermal hazards Wear appropriate thermal protective clothing, when necessary.

Hygiene measures 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.

Environmental exposure controls Environmental manager must be informed of all major releases.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Appearance	Black / grey fiberous mixture
Physical state	Solid. **Form**
	Fibrous.
Colour	Grey/black.
Odour	Not available.
Odour threshold	Not available.
pH	Not applicable.
Melting point/freezing point	Not available.
Initial boiling point and boiling range	> 315,56 °C (> 600 °F)
Flash point	232,2 °C (450,0 °F) Cleveland closed cup
Evaporation rate	Not available.
Flammability (solid, gas)	Not available.
Upper/lower flammability or explosive limits	
Flammability limit - lower (%)	Not available.
Flammability limit - upper (%)	Not available.
Vapour pressure	< 10 mm Hg
Vapour density	Not available.
Relative density	Not available.
Solubility(ies)	Slightly solble in water.
Partition coefficient (n-octanol/water)	No data available.
Auto-ignition temperature	Not available.
Decomposition temperature	Not available.
Viscosity	Not applicable.
Explosive properties	Not available.
Oxidizing properties	Not available.
9.2. Other information	No relevant additional information available.

SECTION 10: Stability and reactivity

10.1. Reactivity	The product is non-reactive under normal conditions of use, storage and transport.
10.2. Chemical stability	Material is stable under normal conditions.
10.3. Possibility of hazardous reactions	Will not occur.
10.4. Conditions to avoid	Avoid dust formation. Dust clouds may be explosive under certain conditions.
10.5. Incompatible materials	Strong oxidising agents. Strong acids.
10.6. Hazardous decomposition products	Carbon oxides. Nickel oxide.

SECTION 11: Toxicological information

General information	Occupational exposure to the substance or mixture may cause adverse effects.
Information on likely routes of exposure	
Ingestion	May cause discomfort if swallowed.
Inhalation	Dust may irritate throat and respiratory system and cause coughing.
Skin contact	Dust may irritate skin.
Eye contact	Dust may irritate the eyes.
Symptoms	Direct contact with eyes may cause temporary irritation.
11.1. Information on toxicological effects	
Acute toxicity	Dust may cause eye, skin and respiratory tract irritation.

Components	Species	Test results
Carbon (CAS 7440-44-0)		
Acute		
Oral		
LD50	Rat	> 10000 mg/kg

Skin corrosion/irritation Dust may irritate skin.

Serious eye damage/eye irritation Dust may irritate the eyes.

Respiratory sensitisation No data available.

Skin sensitisation May cause an allergic skin reaction. **Germ**

cell mutagenicity Not expected to be mutagenic.

Carcinogenicity Suspected of causing cancer by inhalation.

IARC Monographs. Overall Evaluation of Carcinogenicity

Nickel (CAS 7440-02-0) 2B Possibly carcinogenic to humans.

Reproductive toxicity No test data available for the product.

Specific target organ toxicity - single exposure No data available.

Specific target organ toxicity - repeated exposure May cause damage to organs (Respiratory system) through prolonged or repeated exposure by inhalation.

Aspiration hazard Due to the physical form of the product it is not an aspiration hazard.

Mixture versus substance information Not available.

Other information None known. Pre-existing pulmonary disorders, such as emphysema, may possibly be aggravated by prolonged exposure to high concentrations of carbon and/or crystalline silica dust.

SECTION 12: Ecological information

12.1. Toxicity The product contains a substance which is harmful to aquatic organisms and which may cause long-term adverse effects in the aquatic environment.

Components		Species	Test results
Nickel (CAS 7440-02-0)			
Aquatic			
Fish	LC50	Fathead minnow (Pimephales promelas)	2,916 mg/l, 96 hours

12.2. Persistence and degradability No data available.

12.3. Bioaccumulative potential No data available.

Partition coefficient n-octanol/water (log Kow) No data available.

Bioconcentration factor (BCF) Not available.

12.4. Mobility in soil No data available.

Mobility in general No data available.

12.5. Results of PBT and vPvB assessment Not a PBT or vPvB substance or mixture.

12.6. Other adverse effects The product is not expected to be hazardous to the environment.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Residual waste Dispose of in accordance with local regulations.

Contaminated packaging Dispose of in accordance with local regulations.

EU waste code 08 04 10
The waste code should be assigned in discussion between the user, the producer and the waste disposal company.

Disposal methods/information Dispose in accordance with all applicable regulations. This material and/or its container must be disposed of as hazardous waste.

SECTION 14: Transport information

ADR

Not regulated as dangerous goods.

RID

Not regulated as dangerous goods.

ADN

Not regulated as dangerous goods.

IATA

Not regulated as dangerous goods.

IMDG

Not regulated as dangerous goods.

14.7. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable.

SECTION 15: Regulatory information

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

EU regulations

Regulation (EC) No. 1005/2009 on substances that deplete the ozone layer, Annex I

Not listed.

Regulation (EC) No. 1005/2009 on substances that deplete the ozone layer, Annex II

Not listed.

Regulation (EC) No. 850/2004 On persistent organic pollutants, Annex I as amended

Not listed.

Regulation (EC) No. 689/2008 concerning the export and import of dangerous chemicals, Annex I, part 1 as amended

Not listed.

Regulation (EC) No. 689/2008 concerning the export and import of dangerous chemicals, Annex I, part 2 as amended

Not listed.

Regulation (EC) No. 689/2008 concerning the export and import of dangerous chemicals, Annex I, part 3 as amended

Not listed.

Regulation (EC) No. 689/2008 concerning the export and import of dangerous chemicals, Annex V as amended

Not listed.

Regulation (EC) No. 166/2006 Annex II Pollutant Release and Transfer Registry

Not listed.

Regulation (EC) No. 1907/2006, REACH Article 59(1) Candidate List as currently published by ECHA

Not listed.

Authorisations

Regulation (EC) No. 1907/2006, REACH Annex XIV Substances subject to authorisation, as amended

Not listed.

Restrictions on use

Regulation (EC) No. 1907/2006, REACH Annex XVII Substances subject to restriction on marketing and use as amended

Nickel (CAS 7440-02-0)

Directive 2004/37/EC: on the protection of workers from the risks related to exposure to carcinogens and mutagens at work

Not regulated.

Directive 92/85/EEC: on the safety and health of pregnant workers and workers who have recently given birth or are breastfeeding

Nickel (CAS 7440-02-0)

Other EU regulations

Directive 96/82/EC (Seveso II) on the control of major-accident hazards involving dangerous substances

Not regulated.

Directive 98/24/EC on the protection of the health and safety of workers from the risks related to chemical agents at work

Nickel (CAS 7440-02-0)

Directive 94/33/EC on the protection of young people at work

Nickel (CAS 7440-02-0)

Other regulations

Young people under 18 years old are not allow to work with this product according to the EU Directive 94/33/EC on the protection of young people at work. Pregnant women should not work with the product, if there is the least risk of exposure. The product does not need to be labelled in accordance with EC directives or respective national laws. This Safety Data Sheet complies with the requirements of Regulation (EC) No 1907/2006 as amended.

National regulations

Follow national regulation for work with chemical agents.

15.2. Chemical safety assessment	No Chemical Safety Assessment has been carried out.

SECTION 16: Other information

List of abbreviations	DNEL: Derived No-Effect Level. PNEC: Predicted No-Effect Concentration. PBT: Persistent, bioaccumulative and toxic. vPvB: Very Persistent and very Bioaccumulative. DSD: Directive 67/548/EEC. CLP: Regulation No. 1272/2008.
References	Not available.
Information on evaluation method leading to the classification of mixture	The classification for health and environmental hazards is derived by a combination of calculation methods and test data, if available.
Full text of any statements or R-phrases and H-statements under Sections 2 to 15	R40 Limited evidence of a carcinogenic effect. R43 May cause sensitisation by skin contact. R48/20 Harmful: danger of serious damage to health by prolonged exposure through inhalation. R48/23 Toxic: danger of serious damage to health by prolonged exposure through inhalation. R52/53 Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment. H317 May cause an allergic skin reaction. H351 Suspected of causing cancer. H372 Causes damage to organs through prolonged or repeated exposure.
Training information	Follow training instructions when handling this material.
Disclaimer	The information in the sheet was written based on the best knowledge and experience currently available.