SECTION 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

1.1 Product identifier

Product Name	NCC-3 Cermaic Cement

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

Identified Use(s)	Bonding strain gages to a component
Uses Advised Against	Anything other than the above.

1.3 Details of the supplier of the safety data sheet

Company Identification	VISHAY MEASUREMENTS GROUP UK LTD Stroudley Road Basingstoke Hampshire RG24 8FW United Kingdom
Telephone	+44 (0) 1256 462131
Fax	+44 (0) 1256 471441
E-Mail (competent person)	mm.uk@vishaypg.com

1.4 Emergency telephone number

Emergency Phone No.	(00-1) 703-527-3887	CHEMTREC (24 hours)
Languages spoken	All official European languages.	

SECTION 2: HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture

2.1.1 Regulation (EC) No. 1272/2008 (CLP)

Carc. 1A; H350
STOT RE 1; H372
STOT SE 3; H335

2.2 Label elements

Product Name	NCC-3 Ceramic Cement
Contains:	Quartz

Hazard Pictogram(s)

Signal Word(s): DANGER

Hazard Statement(s):
H350: May cause cancer.
H372: Causes damage to organs through prolonged or repeated exposure.
H335: May cause respiratory irritation.

Precautionary Statement(s):
P201: Obtain special instructions before use.
P261: Avoid breathing mist/vapours/spray.
P280: Wear protective gloves/protective clothing/eye protection/face protection.
P304+P340: IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P308+P313: IF exposed or concerned: Get medical advice/attention.
P403+P233: Store in a well-ventilated place. Keep container tightly closed.

2.3 Other hazards

None known.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.1 Substances Not applicable

3.2 Mixtures

EC Classification Regulation (EC) No. 1272/2008 (CLP)

Chemical identity of the substance	%W/W	CAS No.	EC No.	REACH Registration No.	Hazard classification
Quartz (Silica, respirable Crystalline)	45 - 50	14808-60-7	238-878-4	Not yet assigned in the supply chain	Carc. 1A; H350 STOT RE 1; H372 STOT SE 3; H335

For full text of H/P Statements see section 16.

SECTION 4: FIRST AID MEASURES

4.1 Description of first aid measures

Self-protection of the first aider: Use personal protective equipment as required. Wear appropriate personal protective equipment, avoid direct contact. Ensure adequate ventilation. Avoid breathing vapours. Avoid breathing dust. Avoid all contact.

Inhalation: IF INHALED: If breathing is difficult, remove victim to fresh air and keep at rest in a position comfortable for breathing. Apply artificial respiration if breathing has ceased or shows signs of failing. Get medical advice/attention if you feel unwell.

Skin Contact: IF ON SKIN (or hair): After contact with skin, take off immediately all contaminated clothing, and wash immediately with plenty of soap and water. If irritation (redness, rash, blistering) develops, get medical attention.

Eye Contact: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If irritation develops and persists, get medical attention.

Ingestion: Rinse mouth with water (do not swallow). Do NOT induce vomiting. If vomiting occurs turn patient on side. Do not give milk or alcoholic beverages. Never give anything by mouth to an unconscious person. IF exposed or concerned: Call a POISON CENTER/doctor.

4.2 Most important symptoms and effects, both acute and delayed: May cause cancer. May cause respiratory irritation. Causes damage to organs through prolonged or repeated exposure.

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

Notes to a physician: IF INHALED: Breathing difficulties may appear with several hours delay.

SECTION 5: FIRE-FIGHTING MEASURES

5.1 Extinguishing media

Suitable Extinguishing Media: As appropriate for surrounding fire. Extinguish preferably with foam, carbon dioxide or dry chemical.

Unsuitable extinguishing Media: Do not use water jet. Direct water jet may spread the fire.

5.2 Special hazards arising from the substance or mixture: Not flammable. May decompose in a fire giving off toxic fumes. Combustion products: Carbon monoxide, Carbon dioxide,

5.3 Advice for fire-fighters: Fire fighters should wear complete protective clothing including self-contained breathing apparatus. Do not breathe fumes. Keep containers cool by spraying with water if exposed to fire. Avoid run off to waterways and sewers.

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1	**Personal precautions, protective equipment and emergency procedures**	Use personal protective equipment as required. Wear appropriate personal protective equipment, avoid direct contact. Contaminated clothing should be laundered before reuse. Ensure adequate ventilation. Avoid breathing vapours. Avoid breathing dust. Avoid all contact.
6.2	**Environmental precautions**	Avoid release to the environment. Do not allow to enter drains, sewers or watercourses.
6.3	**Methods and material for containment and cleaning up**	Contain spillages with sand, earth or any suitable adsorbent material. Transfer to a container for disposal or recovery.
6.4	**Reference to other sections**	See Section: 8, 13

SECTION 7: HANDLING AND STORAGE

7.1	**Precautions for safe handling**	Ensure operatives are trained to minimise exposures. Ensure adequate ventilation. Wear appropriate personal protective equipment, avoid direct contact. Avoid breathing vapours. Avoid breathing dust. Avoid all contact. In case of insufficient ventilation, wear suitable respiratory equipment. Keep away from: Elevated temperature. Keep good industrial hygiene. Wash hands thoroughly after handling. Contaminated clothing should be thoroughly cleaned. Do not eat, drink or smoke at the work place. Keep from direct sunlight.
7.2	**Conditions for safe storage, including any incompatibilities**	Keep only in original container. Store in a cool/low-temperature, well-ventilated (dry) place away from heat and ignition sources.
	Storage temperature	Store at ambient temperature. 4 – 26 °C
	Incompatible materials	Strong oxidising agents, Acids and Bases
7.3	**Specific end use(s)**	See Section: 1.2

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Control parameters

8.1.1 Occupational Exposure Limits

SUBSTANCE	CAS No.	LTEL (8 hr TWA ppm)	LTEL (8 hr TWA mg/m³)	STEL (ppm)	STEL (mg/m³)	Note
Quartz (Silica, respirable Crystalline)	14808-60-7	-	0.1	-	-	WEL

Source: WEL: Workplace Exposure Limit (UK HSE EH40)

8.1.2	**Biological limit value**	Not established.
8.1.3	**PNECs and DNELs**	Not established.
8.2	**Exposure controls**	
8.2.1	**Appropriate engineering controls**	Ensure adequate ventilation. Store in a cool/low-temperature, well-ventilated (dry) place away from heat and ignition sources. Atmospheric levels should be controlled in compliance with the occupational exposure limit.
8.2.2	**Individual protection measures, such as personal protective equipment (PPE)**	Keep good industrial hygiene. Wear appropriate personal protective equipment, avoid direct contact. Avoid breathing dust. Avoid breathing vapours. Avoid all contact. IF exposed: Wash immediately with water. Wash contaminated clothing before reuse. Do not eat, drink or smoke at the work place.
	Eye/face protection	Wear protective eye glasses for protection against liquid splashes. Wear eye protection with side protection (EN166).

Skin protection

Hand protection:
Wear impervious gloves (EN374). Protective index 6, corresponding > 480 minutes of permeation time according to EN 374 Gloves should be changed regularly to avoid permeation problems. Breakthrough time of the glove material: refer to the information provided by the gloves' producer.

Body protection:
Wear impervious protective clothing, including boots, lab coat, apron or coveralls, as appropriate, to prevent skin contact.

Respiratory protection

In case of inadequate ventilation wear respiratory protection. Open system(s): Wear suitable respiratory protective equipment. A suitable mask with filter type A (EN141 or EN405) may be appropriate.

Thermal hazards — Not applicable

8.2.3 Environmental Exposure Controls — Avoid release to the environment.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

Appearance	Clear Liquid with White Slurry
Odour	Odourless
Odour threshold	Not established
pH	Not established
Melting point/freezing point	Not established
Initial boiling point and boiling range	100°C
Flash point	Not established
Evaporation rate (Water = 1)	1
Flammability (solid, gas)	Not flammable
Upper/lower flammability or explosive limits	Not applicable
Vapour pressure	Not applicable
Vapour density	Not applicable
Relative density	Not established
Solubility(ies)	Partly soluble in water.
Partition coefficient: n-octanol/water	Not established
Auto-ignition temperature	Not established
Decomposition Temperature	Not established
Viscosity	Not established
Explosive properties	Not established
Oxidising properties	Not established

9.2 Other information — None known

SECTION 10: STABILITY AND REACTIVITY

10.1	**Reactivity**	Stable under normal conditions.
10.2	**Chemical stability**	Stable under normal conditions.
10.3	**Possibility of hazardous reactions**	Stable under normal conditions. Hazardous polymerisation will not occur.
10.4	**Conditions to avoid**	Heat
10.5	**Incompatible materials**	Strong oxidising agents, Acids and Bases
10.6	**Hazardous decomposition product(s)**	Combustion products: Carbon monoxide, Carbon dioxide

SECTION 11: TOXICOLOGICAL INFORMATION

11.1	**Information on toxicological effects**	All test data taken from existing ECHA registrations for the substances mentioned.
	Acute toxicity	
	Ingestion	Based upon the available data, the classification criteria are not met. Acute Toxicity Estimate Mixture Calculation: Estimated LC50 > 2000 mg/kg bw/day.
	Inhalation	Based upon the available data, the classification criteria are not met. Acute Toxicity Estimate Mixture Calculation: Estimated LC50 >20.0 mg/l.
	Skin Contact	Based upon the available data, the classification criteria are not met. Acute Toxicity Estimate Mixture Calculation: Estimated LC50 > 2000 mg/kg bw/day.
	Skin corrosion/irritation	Based upon the available data, the classification criteria are not met.
	Serious eye damage/irritation	Based upon the available data, the classification criteria are not met.
	Respiratory or skin sensitization	Based upon the available data, the classification criteria are not met.
	Germ cell mutagenicity	Based upon the available data, the classification criteria are not met.
	Carcinogenicity	Carc. 1A; May cause cancer.
	Quartz (Silica, respirable Crystalline):	IARC Classification: Group 1. NTP Report on Carcinogens Suspected of causing cancer by inhalation. (Checkoway et al., 1993)(Rice et al., 2001)(Rafnsson V et al, 1997) Route of Exposure: Inhalation into Lungs Causes irritation. Inflammation. Leading to Silicosis and eventually tumour formation. (SIAM 32, 19-21 April 2011)
	Reproductive toxicity	Based upon the available data, the classification criteria are not met.
	STOT - single exposure	STOT SE 3; May cause respiratory irritation.
	Quartz (Silica, respirable Crystalline):	Irritating to respiratory system. (IARC (1997) and SITTIG (4th, 2002))
	STOT - repeated exposure	STOT RE 1; Causes damage to organs through prolonged or repeated exposure. Inhalation into Lungs
	Quartz (Silica, respirable Crystalline):	Prolonged and/or massive exposure to fine fraction crystalline silica-containing dust may cause silicosis, a nodular pulmonary fibrosis caused by deposition in the lungs of fine respirable particles of crystalline silica. (Ziskind et al., 1976; IARC, 1987)
	Aspiration hazard	Based upon the available data, the classification criteria are not met.
11.2	**Other information**	None known.

SECTION 12: ECOLOGICAL INFORMATION

12.1	**Toxicity**	Based upon the available data, the classification criteria are not met. Estimated Mixture LC50 >100 mg/l (Fish)
12.2	**Persistence and degradability**	No data for the mixture as a whole.
12.3	**Bioaccumulative potential**	No data for the mixture as a whole.
12.4	**Mobility in soil**	The substance is predicted to have low mobility in soil. Partly soluble in water.
12.5	**Results of PBT and VPVB assessment**	Not classified as PBT or vPvB.
12.6	**Other adverse effects**	None known.

SECTION 13: DISPOSAL CONSIDERATIONS

13.1	**Waste treatment methods**	Dispose of this material and its container as hazardous wasteSend after pre-treatment to a appropriate hazardous waste incinerator facility according to legislation.
13.2	**Additional Information**	Dispose of contents in accordance with local, state or national legislation.

SECTION 14: TRANSPORT INFORMATION

Not classified according to the United Nations 'Recommendations on the Transport of Dangerous Goods'.

		ADR/RID	IMDG	IATA/ICAO
14.1	**UN number**	Not classified	Not classified	Not classified
14.2	**UN proper shipping name**	Not classified	Not classified	Not classified
14.3	**Transport hazard class(es)**	Not classified	Not classified	Not classified
14.4	**Packing group**	Not classified	Not classified	Not classified
14.5	**Environmental hazards**	Not classified	Not classified	Not classified
14.6	**Special precautions for user**	See Section: 2		
14.7	**Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code**	Not applicable		

SECTION 15: REGULATORY INFORMATION

15.1	**Safety, health and environmental regulations/legislation specific for the substance or mixture**	
15.1.1	**EU regulations**	
	Authorisations and/or Restrictions On Use	Not restricted
15.1.2	**National regulations**	
15.2	**Chemical Safety Assessment**	A REACH chemical safety assessment has been carried out.

SECTION 16: OTHER INFORMATION

The following sections contain revisions or new statements: Not applicable – V1.0

References:
The Classification and Labelling Inventory for Quartz (CAS No. 14808-60-7).

Literature References:

1. Checkoway, H., Heyer, N.J., Demers, P.A. & Breslow, N.E. (1993) Mortality among workers in the diatomaceous earth industry. Br. 1. ind. Med., 50, 586-597
2. Rice, F.L., Park, R., Stayner, L., Smith, R., Gilbert, S., and Checkoway, H. 2001. Crystalline silica exposure and lung cancer mortality in diatomaceous earth industry workers: a quantitative risk assessment. Occup Environ Med, 58(1):38-45.
3. Rafnsson V & Gunnarsdottir H, 1997, Lung cancer incidence among an Icelandic cohort exposed to diatomaceoys earth and cristobalite., Scand J Work Environ Health, 23: 187 – 192. PMID:9243728.
4. INITIAL TARGETED ASSESSMENT PROFILE (Human Health), SIAM 32, 19-21 April 2011, OECD
5. Silica, Some Silicates, Coal Dust and para-Aramid Fibrils, IARC MONOGRAPHS ON THE EVALUATION OF CARCINOGENIC RISKS TO HUMANS, Volume 68 (1997)
6. 13th Report on Carcinogens, National Toxicology Program, 2014
7. Ziskind M, Jones RN, Weill H, 1976, Silicosis. American review of respiratory disease, 113:643–665.
8. Richard P Pohanish; Marshall Sittig, 2002, Sittig's handbook of toxic and hazardous chemicals and carcinogens, Norwich, N.Y., U.S.A. : Noyes Publications, ©2002.

EU Classification: This Safety Data Sheet was prepared in accordance with EC Regulation (EC) 1907/2006 (REACH), 1272/2008 (CLP) & 2015/830.

Classification of the substance or mixture According to Regulation (EC) No. 1272/2008 (CLP)	Classification Procedure
Carc. 1A; H350 - Inhalation	Threshold Calculation
STOT RE 1; H372 – Lungs	Threshold Calculation
STOT SE 3; H335	Threshold Calculation

LEGEND
LTEL: Long Term Exposure Limit STEL: Short Term Exposure Limit

DNEL: Derived No Effect Level
PBT: PBT: Persistent, Bioaccumulative and Toxic
PNEC: Predicted No Effect Concentration
vPvB: very Persistent and very Bioaccumulative

Hazard classification / Classification code:
Carc. 1A; Carcinogen, category 1A
STOT SE 3; Specific target organ toxicity — single exposure, Category 3
STOT RE 1; Specific target organ toxicity — repeated exposure, Category 1

Hazard Statement(s)
H350: May cause cancer.
H335: May cause respiratory irritation.
H372: Causes damage to organs through prolonged or repeated exposure.

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