

# Material Safety Data

TRW, Inc. - Nelson Stud Welding Division  
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Emergency Telephone No.  
**24 Hour** 216.245.6931

Trade Name  
Ceramic Stud Welding Ferrule

C A S No.  
NE for Ferrule: Quartz = 14808-60-7

Chemical Name  
Ceramic Ferrule

Synonyms  
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Date of Issue/Revision  
February 1, 1986

## 1. Hazardous Ingredients

Material	%	ACGIH (TLV) *	OSHA (PEL) *
Quartz	≈27	.34 respirable fraction 1.0 total particulate	.34
<p>In its manufactured and shipped state this material is considered non-hazardous. Mechanical abrasion and removal of the ferrule may generate dusts and particulate matter which contain quartz.</p>			
*All values are in milligrams per cubic meter of air			

## 2. Physical Data

Appearance Tan Ceramic	Odor None	Melt Point <2800°F	Specific Gravity NA
Vapor Density (Air = 1) NA	% Volatile By Volume 0	Bulk Density NA	Boiling Point NA
Vapor Pressure NA	% Solubility (H <sub>2</sub> O) 0	Evaporation Rate (BuOAc = 1) NA	Other NA

## 3. Fire and Explosion Hazard Data

Flash Point & Method NA	
Flammable Limits NA	NA
LEL	UEL
Extinguishing Media NA — Material will not ignite	
Special Fire Fighting Procedures None	
Unusual Fire and Explosion Hazards None	

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#### 4. Physiological Effects

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LD50 Oral (Ingestion) NE	LD50 Dermal (Skin Contact) NE	LC50 (Inhalation) NE
Primary Route of Exposure Inhalation of dust and particulate matter generated by mechanical abrasion or removal of the ferrule		Threshold Limit Value (TLV) NE for Ferrule — See Section 1
Effects of Overexposure		

Acute Inhalation of high concentrations of dusts may cause irritation of the eyes, mucous membranes, and respiratory tract.

Chronic Prolonged inhalation of high concentrations of dust and particulate matter containing quartz may lead to a progressive, disabling lung disorder known as silicosis. Symptoms may include cough, dyspnea, wheezing and repeated non-specific chest illnesses. There is generally a progressive decrease in pulmonary function. The on-set of symptoms is usually very gradual and is accompanied by x-ray changes of the lungs.

Massive exposures to quartz, over a short period, may lead to an especially severe form of the disorder which can manifest itself within six months.

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#### 5. Emergency and First Aid Procedures

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If particulate matter enters the eye, flush with water for at least 15 minutes. If irritation persists, seek medical attention.

For over exposure to particulate matter, remove exposed person to fresh air. If breathing has stopped, administer oxygen or artificial respiration as indicated. Seek medical attention promptly.

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#### 6. Physical Hazards

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None that are known

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## 7. Special Protection Information

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### Ventilation

Natural or local exhaust ventilation should be provided to maintain exposures below the limits cited in Section 1. Design details for local 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 48901.

### Respiratory

For exposure in excess of those cited in Section 1, by less than a factor of 10, use as a minimum a NIOSH/MSHA ½ face piece respirator with cartridges approved for dusts and fumes with an exposure limit of not less than 0.05 mg/M3. If exposures to particulate matter may exceed 10 times the cited limits, consult your respiratory equipment supplier for selection of the proper equipment.

### Eye Protection

Appropriate safety glasses or goggles are recommended for protection against particulate matter.

### Protective Gloves

Protective gloves should be used to protect cuts and abrasions.

### Other

Appropriate protective clothing as may be required for the particular job.

**All chemicals should be handled 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.**

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## 8. Chemical Reactivity

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### Conditions Causing Instability

NA Stable

### Incompatibility (Materials to Avoid)

None Known

### Hazardous Decomposition Products

NA

### Special Sensitivity

NA

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## 9. Storage Information

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### Precautions to be Taken in Handling and Storing

No special precautions necessary

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## 10. Spill, Leak, and Disposal Information

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### Steps to be Taken in Case Material is Spilled or Released

NA to ceramic ferrules. Good housekeeping practices should be employed to avoid accumulations of dust.

### HL (HA ID) Number

NA

### Waste Disposal Method

Scrap ferrules should be disposed of in a landfill in accordance with all local, state and federal regulations.

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## 11. Additional Comments

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1. The elements in this material have not been listed by the International Agency for Research in Cancer (IARC) Monographs or the National Toxicology Program (NTP) as potential carcinogens.
2. This material is designed for use with steel or aluminum welding studs. Please refer to the appropriate material safety data sheet for the hazards associated with the use of welding studs.