



# Material Safety Data Sheet

## Section 1: Product & Company Identification

**Product Name:** Permanent Head Gasket & Block Repair with Nanotechnology

**Product Number (s):** 401232

**Manufactured By:**

CRC Industries, Inc.  
885 Louis Drive  
Warminster, PA 18974  
[www.crcindustries.com](http://www.crcindustries.com)

General Information	(215) 674-4300
Technical Assistance	(800) 521-3168
Customer Service	(800) 272-8963
24-Hr Emergency (CHEMTREC)	(800) 424-9300

## Section 2: Hazards Identification

### Emergency Overview

Appearance & Odor: Metallic copper liquid, practically odorless

**CAUTION**  
Irritant

As defined by OSHA's Hazard Communication Standard, this product is hazardous.

### Potential Health Effects:

- EYE:** Causes moderate irritation to the eyes.
- SKIN:** Causes moderate irritation to the skin.
- INHALATION:** Spray mist would be irritating to the respiratory system.
- INGESTION:** May cause irritation to the mouth, esophagus and stomach.
- CHRONIC EFFECTS:** None known
- TARGET ORGANS:** for copper: liver, kidney and lungs

Medical Conditions Aggravated by Exposure:

Unknown

See Section 11 for toxicology and carcinogenicity information on product ingredients.

---

---

**Section 3: Composition/Information on Ingredients**

COMPONENT	CAS NUMBER	% by Wt.
Water	7732-18-5	75 – 85
Sodium silicate	1344-09-8	10 - 20
Copper flake	7440-50-8	< 1
Aluminum paste	7429-90-5	< 1

---

---

**Section 4: First Aid Measures**

**Eye Contact:** Immediately flush with plenty of water for 15 minutes. Call a physician if irritation persists.

**Skin Contact:** Remove contaminated clothing and wash affected area with soap and water. Call a physician if irritation persists. Wash contaminated clothing prior to re-use.

**Inhalation:** Remove person to fresh air. Keep person calm. If not breathing, give artificial respiration. If breathing is difficult give oxygen. Call a physician.

**Ingestion:** If swallowed, DO NOT induce vomiting. Give victim a glass of water. Get medical attention immediately.

*Note to Physicians:* None

---

---

**Section 5: Fire-Fighting Measures**

**Flammable Properties:** As defined by OSHA, this product is nonflammable.

Flash Point: None (TCC)                      Upper Explosive Limit: None  
Autoignition Temperature: None                      Lower Explosive Limit: None

**Suitable Extinguishing Media:** This material will not burn. Use extinguishing media appropriate for the surrounding fire.

**Products of Combustion:** NA

**Protection of Fire-Fighters:** Firefighters should wear self-contained, NIOSH-approved breathing apparatus for protection against suffocation and possible toxic decomposition products. Proper eye and skin protection should be provided. Use water spray to keep fire-exposed containers cool and to knock down vapors which may result from product decomposition.

---

---

**Section 6: Accidental Release Measures**

**Personal Precautions:** Use personal protection recommended in Section 8.

**Environmental Precautions:** Take precautions to prevent contamination of ground and surface waters. Do not flush into sewers or storm drains. This product is harmful to aquatic life.

Methods for Containment & Clean-up: Dike area to contain spill. Ventilate the area with fresh air. If in confined space or limited air circulation area, clean-up workers should wear appropriate respiratory protection. Recover or absorb spilled material using an absorbent designed for chemical spills. Place used absorbents into proper waste containers.

### Section 7: Handling and Storage

Handling Procedures: Avoid contact with eyes, skin and clothing. Keep container closed when not in use. Properly clean any spilled residue with a wet cloth.

Storage Procedures: Store in a cool dry area out of direct sunlight. Store in closed container. Do not store near acids.

Aerosol Storage Level: NA

### Section 8: Exposure Controls/Personal Protection

Exposure Guidelines:

COMPONENT	OSHA		ACGIH		OTHER		UNIT
	TWA	STEL	TWA	STEL	TWA	SOURCE	
Water	NE	NE	NE	NE	NE		
Sodium silicate	NE	NE	NE	NE	NE		
Copper flake	0.1*	NE	0.1*	NE	NE		mg/m <sup>3</sup>
Aluminum paste	15*	NE	10*	NE	NE		mg/m <sup>3</sup>
N.E. – Not Established      (c) – ceiling      (s) – skin      (v) – vacated							

\* Exposure values apply to dust or respirable fraction. These values would not apply to the liquid mixture product. These would only apply to this product if it were dried to a powder or residue.

Engineering Controls: Area should have ventilation to provide fresh air. Use local exhaust to prevent accumulation of vapors. Use mechanical means if necessary to maintain vapor levels below the exposure guidelines. If working in a confined space, follow applicable OSHA regulations

Respiratory Protection: None required for normal work where adequate ventilation is provided. Use a self-contained breathing apparatus in confined spaces and for emergencies.

Eye/face Protection: For normal conditions, wear safety glasses. Where there is reasonable probability of liquid contact, wear splash-proof goggles.

Skin Protection: Use protective gloves such as nitrile or neoprene. Also, use full protective clothing if there is prolonged or repeated contact of liquid with skin.

### Section 9: Physical and Chemical Properties

Physical State: liquid  
 Color: metallic copper  
 Odor: practically odorless  
 Specific Gravity: 1.15  
 Initial Boiling Point: 212 F  
 Freezing Point: ND

Vapor Pressure: ND

Vapor Density: &gt; 1 (air = 1)

Evaporation Rate: &lt; 1 (ether = 1)

Solubility: Complete

pH: 11 – 11.5

Volatile Organic Compounds: wt %: 0 g/L: 0 lbs./gal: 0**Section 10: Stability and Reactivity**

Stability: Stable

Conditions to Avoid: None

Incompatible Materials: Acids, ammonium salts

Hazardous Decomposition Products: Hydrogen

Possibility of Hazardous Reactions: No

**Section 11: Toxicological Information**

Long-term toxicological studies have not been conducted for this product. The following information is available for components of this product.

**ACUTE EFFECTS**

<u>Component</u>	<u>Test</u>	<u>Result</u>	<u>Route</u>	<u>Species</u>
Sodium silicate	LD50	1153 mg/kg	Oral	Rat

**CHRONIC EFFECTS**

Carcinogenicity:

	<u>Component</u>	<u>Result</u>
OSHA:	None listed	
IARC:	None listed	
NTP:	None listed	

Mutagenicity: No data

Other: None

**Section 12: Ecological Information**

Ecological studies have not been conducted for this product. The following information is available for components of this product.

Ecotoxicity:	copper – 96 Hr LC50 water flea: 10 µg/L sodium silicate – 96 Hr LC50 water flea: 247 ppm
Persistence / Degradability:	This material is not persistent in aquatic systems, but its high pH when undiluted is acutely harmful to aquatic life.
Bioaccumulation / Accumulation:	No information available.
Mobility in Environment:	No information available.

**Section 13: Disposal Considerations**

Disposal: This material is not a RCRA hazardous waste. (See 40 CFR Part 261.20 – 261.33)  
Wastes should be collected and properly disposed. Do not dump into bodies of water, on the ground or in a septic system.

All disposal activities must comply with federal, state and local regulations. Local regulations may be more stringent than state or national requirements.

**Section 14: Transport Information**

Proper shipping description:

US DOT (ground): Not regulated.

Special Provisions: None

**Section 15: Regulatory Information**

**U.S. Federal**

Toxic Substances Control Act (TSCA):

All ingredients are either listed on the TSCA inventory or are exempt.

Comprehensive Environmental Response, Compensation and Liability Act (CERCLA):

Reportable Quantities (RQ's) exist for the following ingredients: copper (5000 lbs)

**Spills or releases resulting in the loss of any ingredient at or above its RQ require immediate notification to the National Response Center (800-424-8802) and to your Local Emergency Planning Committee.**

Superfund Amendments Reauthorization Act (SARA) Title III:

Section 302 Extremely Hazardous Substances (EHS): None

Section 311/312 Hazard Categories:	Fire Hazard	No
	Reactive Hazard	No
	Release of Pressure	No
	Acute Health Hazard	Yes
	Chronic Health Hazard	No

Section 313 Toxic Chemicals: This product contains the following substances subject to the reporting requirements of Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 and 40 CFR Part 372:  
Copper (< 1%)

Clean Air Act:

Section 112 Hazardous Air Pollutants (HAPs): None

Consumer Product Safety Act General Conformity Certification: This product was evaluated by CRC Industries, Inc., and is certified to be in compliance with the provisions of the Consumer Product Safety Act, the Federal Hazardous Substances Act and the Poison Prevention Packaging Act, as applicable. This product was manufactured at the location listed in Section 1 of this MSDS. The date of manufacture is stamped on the product container. No testing is required to certify compliance with the above

**State Regulations**California Safe Drinking Water and Toxic Enforcement Act (Prop 65):

This product may contain the following chemicals known to the state of California to cause cancer, birth defects or other reproductive harm: NONE

State Right to Know:

New Jersey: 7440-50-8, 7429-90-5  
 Pennsylvania: 7440-50-8, 7429-90-5  
 Massachusetts: 7440-50-8, 7429-90-5  
 Rhode Island : 7440-50-8, 7429-90-5

**Additional Regulatory Information:** None

**Section 16: Other Information**

NFPA:	Health: 1	Flammability: 0	Reactivity: 0	
HMIS:	Health: 1	Flammability: 0	Reactivity: 0	PPE: B

Prepared By: Michelle Rudnick  
 CRC #: 683B  
 Revision Date: 11/10/2008

Changes since last revision: Section 15: CPSA Certification added

The information contained in this document applies to this specific material as supplied. It may not be valid for this material if it is used in combination with any other materials. This information is accurate to the best of CRC Industries' knowledge or obtained from sources believed by CRC to be accurate. Before using any product, read all warnings and directions on the label.

CAS:	Chemical Abstract Service	NA:	Not Applicable
ppm:	Parts per Million	ND:	Not Determined
TCC:	Tag Closed Cup	NE:	Not Established
PMCC:	Pensky-Martens Closed Cup	g/L:	grams per Liter
PPE:	Personal Protection Equipment	lbs./gal:	pounds per gallon
TWA:	Time Weighted Average	STEL:	Short Term Exposure Limit
OSHA:	Occupational Safety and Health Administration		
ACGIH	American Association of Governmental Industrial Hygienists		
NIOSH	National Institute of Occupational Safety & Health		