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1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product name: C5-A® Copper Based Anti-Seize Lubricant	Item No. : 51144 / IDH No. 234259
Product type: Lubricant	Region: United States
Company address: Henkel Corporation 1001 Trout Brook Crossing Rocky Hill, Connecticut 06067	Contact Information: Telephone: (860) 571-5100 Emergency telephone: (860) 571-5100 Internet: www.loctite.com

2. COMPOSITION/INFORMATION ON INGREDIENTS

<u>Hazardous components</u>	<u>%</u>	<u>ACGIH TLV</u>	<u>OSHA PEL</u>	<u>OTHER</u>
Distillates (petroleum), hydrotreated heavy naphthenic 64742-52-5	30-60	5 mg/m ³ TWA (mist) 10mg/m ³ STEL (mist)	5 mg/m ³ TWA (mist)	None
Calcium hydroxide 1305-62-0	10-30	5 mg/m ³ TWA	15 mg/m ³ TWA total dust 5 mg/m ³ TWA respirable fraction	None
Distillates (petroleum), hydrotreated light naphthenic 64742-53-6	10-30	5 mg/m ³ TWA (mist) 10mg/m ³ STEL (mist)	5 mg/m ³ TWA (mist)	None
Copper 7440-50-8	10-30	0.2 mg/m ³ TWA 1 mg/m ³ TWA	0.1 mg/m ³ TWA fume 1 mg/m ³ TWA dusts and mists	None
Graphite 7782-42-5	5-10	2 mg/m ³ TWA all forms except graphite fibers	15 mg/m ³ (total), 5 mg/m ³ (respirable)	None
Silica, quartz 14808-60-7	0.1-1	0.025 mg/m ³ TWA respirable fraction	0.1mg/m ³ TWA (respirable)	None

3. HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW

Physical state: Paste	HEALTH: 1
Color: Copper	FLAMMABILITY: 1
Odor: Mild petroleum	PHYSICAL HAZARD: 0
	Personal Protection: See Section 8

CAUTION: MAY CAUSE EYE AND SKIN IRRITATION.

Relevant routes of exposure: Skin, Eyes

Potential Health Effects

Inhalation: This product has low volatility and is not expected to cause respiratory tract irritation during normal conditions of use. Inhalation of copper fumes may result in metal fume fever. Symptoms include metallic taste, discoloration of skin or hair.

Skin contact: Prolonged or repeated contact may cause irritation.

Eye contact: Contact with eyes will cause irritation.

Ingestion: Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea. Principal hazard of ingestion is aspiration into the lungs and subsequent pneumonitis.

Existing conditions aggravated by exposure: Eye, skin, and respiratory disorders.

4. FIRST AID MEASURES

Inhalation:	Remove to fresh air. If discomfort persists seek medical attention.
Skin contact:	Wash with soap and water. Get medical attention if symptoms develop and persist.
Eye contact:	Immediately flush eyes with plenty of water for at least 15 minutes. Get medical attention.
Ingestion:	Do not induce vomiting. Aspiration may cause pulmonary edema and pneumonitis. Obtain medical attention.

5. FIRE-FIGHTING MEASURES

Flash point:	Greater than 93°C (200°F) (estimated)
Autoignition temperature:	Not determined
Flammable/Explosive limits-lower %:	Not determined
Flammable/Explosive limits-upper %:	Not determined
Extinguishing media:	Carbon dioxide (CO ₂). Dry chemical. Foam. Water spray.
Special fire fighting procedures:	None
Unusual fire or explosion hazards:	None
Hazardous combustion products:	Oxides of carbon.

6. ACCIDENTAL RELEASE MEASURES

Environmental precautions:	Do not allow material to contaminate ground water system.
Clean-up methods:	Scrape up as much material as possible. Clean residue with soap and water. Dispose of in accordance with local and national regulations.

7. HANDLING AND STORAGE

Handling:	Keep container closed. Avoid contact with eyes, skin and clothing. Wash thoroughly after handling.
Storage:	Keep in a cool, well ventilated area.
Incompatible products:	Oxidizing agents.

For information on product shelf life contact Henkel Customer Service at (800) 243-4874.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Engineering controls:	Ensure adequate ventilation. Local exhaust ventilation is recommended when general ventilation is not sufficient to control airborne contamination below occupational exposure limits.
Respiratory protection:	Use NIOSH approved respirator if there is potential to exceed exposure limit(s). Observe OSHA regulations for respiratory use (29 CFR 1910.134).
Skin protection:	Cover as much of the exposed skin area as possible with appropriate clothing.
Eye/face protection:	Safety glasses with side-shields. Goggles.

See Section 2 for exposure limits.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state:	Paste
Color:	Copper
Odor:	Mild petroleum
Vapor pressure:	Less than 5 mm Hg
pH:	Not applicable
Boiling point/range:	Greater than 260°C (500°F)
Melting point/range:	Not available
Specific gravity:	1.30
Vapor density:	Heavier than air
Evaporation rate:	Slower than ether.
Solubility in water:	Insoluble.
Partition coefficient (n-octanol/water):	Not determined
VOC content:	Essentially Zero

10. STABILITY AND REACTIVITY

Stability:	Stable at normal conditions
Hazardous polymerization:	Will not occur.
Hazardous decomposition products:	Oxides of carbon. Hydrocarbons.
Incompatibility:	Oxidizing agents. Strong acids and strong bases.
Conditions to avoid:	Prolonged exposure to heat.

11. TOXICOLOGICAL INFORMATION

Carcinogen Status

Hazardous components	NTP Carcinogen	IARC Carcinogen	OSHA Carcinogen
Distillates (petroleum), hydrotreated heavy naphthenic 64742-52-5	No	No	No
Calcium hydroxide 1305-62-0	No	No	No
Distillates (petroleum), hydrotreated light naphthenic 64742-53-6	No	No	No
Copper 7440-50-8	No	No	No
Graphite 7782-42-5	No	No	No
Silica, quartz 14808-60-7	Known Carcinogen	Group 1	Yes

Literature Referenced Target Organ & Other Health Effects

Hazardous components	Health Effects/Target Organs
Distillates (petroleum), hydrotreated heavy naphthenic 64742-52-5	Irritant
Calcium hydroxide 1305-62-0	Irritant, Corrosive
Distillates (petroleum), hydrotreated light naphthenic 64742-53-6	Irritant
Copper 7440-50-8	Skin, Sensory, Mutagen, Liver, Kidney, Irritant, Immune system, Gastrointestinal, Central nervous system, Blood, Allergen, Developmental
Graphite 7782-42-5	Lung
Silica, quartz 14808-60-7	Some evidence of carcinogenicity, Lung, Immune system

12. ECOLOGICAL INFORMATION

Ecological information: Not available

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13. DISPOSAL CONSIDERATIONS

Information provided is for unused product only.

Recommended method of disposal: Dispose of according to Federal, State and local governmental regulations.
EPA hazardous waste number: Not a RCRA hazardous waste.

14. TRANSPORT INFORMATION

U.S. Department of Transportation Ground (49 CFR):

Proper shipping name: Not regulated
Hazard class or division: None
Identification number: None
Packing group: None
DOT reportable quantity (lbs): Copper (CAS# 7440-50-8) is reportable at 5000 pounds (2700kg)
Marine pollutant: Copper

International Air Transportation (ICAO/IATA):

Proper shipping name: Not regulated
Hazard class or division: None
Identification number: None
Packing group: None

Water Transportation (IMO/MDG):

Proper shipping name: Environmentally hazardous substances, liquid, n.o.s. (Copper)
Hazard class or division: 9
Identification number: UN3082
Packing group: III
Marine pollutant: Copper

15. REGULATORY INFORMATION

United States Regulatory Information

TSCA 8 (b) Inventory Status: All components are listed or are exempt from listing on the Toxic Substances Control Act Inventory.
TSCA 12 (b) Export Notification: None.

CERCLA/SARA Section 302 EHS: None.
CERCLA/SARA Section 311/312: Immediate Health Hazard
CERCLA/SARA 313: This product contains the following toxic chemicals subject to the reporting requirements of section 313 of the Emergency Planning and Community Right-To-Know Act of 1986 (40 CFR 372). Copper (CAS# 7440-50-8).

California Proposition 65: No California Proposition 65 listed chemicals are known to be present.

Canada Regulatory Information

CEPA DSL/NDSL Status: All components are listed on or are exempt from listing on the Domestic Substances List.
WHMIS hazard class: D.2.A, D.2.B

16. OTHER INFORMATION

This material safety data sheet contains changes from the previous version in sections: 2,11

Prepared by: Regulatory Affairs

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