

Revision Date 20-May-2015

Version 1

**1. IDENTIFICATION**

**1.1 Product identifier**

Product Name AL60 12.7mm DIA DCRC GLIDCOP®  
Item number 103241

**Other means of identification**

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

Relevant identified uses Welding, Automotive, medical, lighting industries.

**1.3 Details of the supplier of the safety data sheet**

North American Höganäs High Alloys LLC  
101 Bridge Street  
US-Johnstown,  
PA 15902  
Telephone +1 814 533 7800

Contact Information E-Mail  
sds@nah.com

Fax Number  
+1 814 536 7732

**1.4 Emergency telephone number**

Emergency telephone at the company  
+1 814-361-6800 (available 24 hours)

**2. HAZARDS IDENTIFICATION**

**2.1 Classification of the substance or mixture**

This chemical is not considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.122)

**2.2 Label Elements**

Signal Word  
None

**Hazard Statements**

Not Classified

**Precautionary Statements**

Not applicable

**Hazards not otherwise classified (HNOC)**

Not applicable

**2.3 Other hazards**

Not classified as PBT or vPvB

**Emergency Overview****Physical state** Solid**Appearance** Red, Copper, metal.**3. COMPOSITION/INFORMATION ON INGREDIENTS****3.1 Substances/Mixtures**

Chemical Name	CAS-No	Content (%)	Trade Secret
Copper	7440-50-8	>25	-
Aluminum	7429-90-5	0,5-0,6	-

**4. FIRST AID MEASURES****4.1 Description of first-aid measures**

<b>Inhalation</b>	If fumes from reactions are inhaled, move to fresh air immediately.
<b>Skin contact</b>	Wash off with warm water and soap.
<b>Eye contact</b>	Rinse thoroughly with plenty of water, also under the eyelids. Remove contact lenses. Call a physician if irritation persists.
<b>Ingestion</b>	Do not induce vomiting without medical advice. If symptoms persist, call a physician.

**4.2 Most important symptoms and effects, both acute and delayed**

<b>Inhalation</b>	May cause irritation of respiratory tract.
<b>Skin contact</b>	Long term contact can cause irritation.
<b>Eye contact</b>	May cause mechanical irritation.

**Ingestion**

Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea. The most critical organ for delayed effects from copper excess is the liver.

**4.3 Indication of any immediate medical attention and special treatment needed**

Treat symptomatically.

**5. FIRE-FIGHTING MEASURES****5.1 Extinguishing media****Suitable Extinguishing Media**

Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

**Extinguishing media which shall not be used for safety reasons**

Do not use halon type extinguisher or Water.

**5.2 Special hazards arising from the substance or mixture****Special Hazard**

None in particular.

**5.3 Advice for firefighters**

As in any fire, wear self-contained breathing apparatus and full protective gear.

**6. ACCIDENTAL RELEASE MEASURES****6.1 Personal precautions, protective equipment and emergency procedures**

Avoid generation of dusty atmospheres. Use personal protective equipment as required.

**6.2 Environmental precautions**

No special environmental precautions required.

**6.3 Methods and materials for containment and cleaning up**

Not applicable.

**6.4 Reference to other sections**

Refer to protective measures listed in sections 7 and 8.

**7. HANDLING AND STORAGE****7.1 Precautions for safe handling**

**Protective measures**

Do not breathe vapors/dust.

**Advice on general occupational hygiene**

Avoid inhalation, ingestion and contact with skin and eyes. General occupational hygiene measures are required to ensure safe handling of the substance. The measures involve good personal and housekeeping practices (i.e. regular cleaning with suitable cleaning devices), no drinking, eating and smoking at the workplace. Shower and change clothes at end of work shift.

**7.2 Conditions for safe storage, including any incompatibilities**

Keep in a dry place. Make sure the product does not come in contact with acids or strong oxidizers.

**7.3 Specific end uses**

No information available.

**8. EXPOSURE CONTROLS/PERSONAL PROTECTION****8.1 Control parameters****Exposure limits**

Chemical Name	ACGIH TLV	OSHA PEL	NIOSH IDLH
Copper 7440-50-8	TWA: 0.2 mg/m <sup>3</sup> fume	TWA: 0.1 mg/m <sup>3</sup> fume TWA: 1 mg/m <sup>3</sup> dust and mist (vacated) TWA: 0.1 mg/m <sup>3</sup> Cu dust, fume, mist	IDLH: 100 mg/m <sup>3</sup> dust, fume and mist TWA: 1 mg/m <sup>3</sup> dust and mist TWA: 0.1 mg/m <sup>3</sup> fume
Aluminum 7429-90-5	TWA: 1 mg/m <sup>3</sup> respirable fraction	TWA: 15 mg/m <sup>3</sup> total dust TWA: 5 mg/m <sup>3</sup> respirable fraction (vacated) TWA: 15 mg/m <sup>3</sup> total dust (vacated) TWA: 5 mg/m <sup>3</sup> respirable fraction (vacated) TWA: 5 mg/m <sup>3</sup> Al Aluminum	TWA: 10 mg/m <sup>3</sup> total dust TWA: 5 mg/m <sup>3</sup> respirable dust TWA: 5 mg/m <sup>3</sup> Al

**8.2 Exposure controls****Engineering Measures**

Ensure adequate ventilation, especially in confined areas.

**Individual protection measures, such as personal protective equipment****Eye/Face Protection**

ANSI approved safety glasses or protective goggles

**Skin protection**

Long sleeved clothing.

**Hand Protection**

Is normally not needed. In case of long-term handling butyl or nitrile gloves can be used.

**Respiratory protection**

If exposure limits are exceeded or irritation is experienced, NIOSH/MSHA approved respiratory protection should be worn. Respiratory protection must be provided in accordance with current local regulations minimum N95

**Thermal hazards**

Copper does not have any self-heating or auto-flammable properties.

**Environmental Exposure Controls** Dust from exhaust ventilation should be separated out in order to avoid release to the natural environment.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

### 9.1 Information on basic physical and chemical properties

Physical state	Solid
Appearance	Red Copper metal.
Odor	Odorless
Odor Threshold	Not applicable.
Particle size	No information available

<u>Property</u>	<u>Values</u>
pH	Not applicable
Melting/freezing point	1059-1069 °C
Boiling point/boiling range	Not applicable
Flash Point	Not applicable
Evaporation rate	Not applicable
Flammability (solid, gas)	Non-flammable.
Flammability Limits in Air	
Upper flammability or explosive limit	No information available
Lower flammability or explosive limit	No information available

**Note**  
 Insoluble in water.  
 Copper  
 Solid with a melting point >300°C  
 Not relevant for inorganic substances  
 Solid with a melting point >300°C

Vapor pressure	No information available
Vapor density	No information available
Relative density	7,72-8,90 g/cm3
Water Solubility	

Solid with a melting point >300°C  
 Solid with a melting point >300°C

Solubility in other solvents	Not applicable
Partition coefficient: n-octanol/water	Not determined
Autoignition temperature	Not applicable
Decomposition temperature	Not applicable
Viscosity	No information available
Explosive properties	Not explosive
Oxidizing Properties	Not oxidizing

Copper needs to be transformed into a copper compound to become soluble. A solubility test (OECD 105) demonstrated a solubility of <1mg for a copper powder.  
 Not relevant for inorganic substances  
 Not relevant for inorganic substances  
 UN test N.4.  
 Not relevant for inorganic substances  
 Solid with a melting point >300°C  
 The substance contains no chemical groups associated with explosive properties.  
 Information derived from practical experience.

### 9.2 Other information

VOC Content(%)	Not applicable
Bulk Density	No information available
Fines fraction	No information available
Dust explosion class	No information available

## 10. STABILITY AND REACTIVITY

### 10.1 Reactivity

Stable under normal conditions.

### **10.2 Chemical stability**

Stable under normal handling and storage conditions.

### **10.3 Possibility of hazardous reactions**

Reaction with H- equivalents releases soluble copper compounds.

### **10.4 Conditions to Avoid**

Avoid contact with acids and Dust formation.

### **10.5 Incompatible Materials**

Strong oxidizing agents and strong acids, Powdered magnesium.

### **10.6 Hazardous decomposition products**

None under normal use.

## **11. TOXICOLOGICAL INFORMATION**

### **11.1 Information on toxicological effects**

#### **Information on likely routes of exposure**

<b>General</b>	The principal risk to human health presented by metal dust is related to the concentration of dust in the air acting as a nuisance dust. The higher the concentration of dust the greater the risk of irritation to the respiratory system and mechanical irritation to the eyes.
<b>Acute Toxicity</b>	Not classified according to the criterias of the Globally Harmonized System (GHS).
<b>Skin corrosion/irritation</b>	Not classified according to the criterias of the Globally Harmonized System (GHS)
<b>Serious Eye Damage/Eye Irritation</b>	Not classified according to the criterias of the Globally Harmonized System (GHS). Dust contact with the eyes can lead to mechanical irritation.
<b>Respiratory or skin sensitization</b>	Not classified according to the criterias of the Globally Harmonized System (GHS).
<b>Germ Cell Mutagenicity</b>	Not classified according to the criterias of the Globally Harmonized System (GHS).
<b>Reproductive Toxicity</b>	Not classified according to the criterias of the Globally Harmonized System (GHS).
<b>STOT-single exposure</b>	Not classified according to the criterias of the Globally Harmonized System (GHS).
<b>STOT-repeated exposure</b>	Not classified according to the criterias of the Globally Harmonized System (GHS).
<b>Aspiration hazard</b>	Not classified according to the criterias of the Globally Harmonized System (GHS).



Chemical Name	LD50 Oral	LD50 Dermal	LC50 Inhalation
Copper 7440-50-8	>2000mg/kg body weight	-	-

**Carcinogenicity** Not classified according to the criterias of the Globally Harmonized System (GHS).

**Legend:**

ACGIH: (American Conference of Governmental Industrial Hygienists) A1 - Known Human Carcinogen  
 A2 - Suspected Human Carcinogen  
 A3 - Animal Carcinogen  
 A4 - Not Classifiable as a Human Carcinogen  
 IARC: (International Agency for Research on Cancer)  
 Group 1 - Carcinogenic to Humans  
 Group 2A - Probably Carcinogenic to Humans  
 Group 2B - Possibly Carcinogenic to Humans  
 Group 3 - Not Classifiable as to Carcinogenicity in Humans  
 NTP: (National Toxicity Program) Known - Known Carcinogen  
 Reasonably Anticipated - Reasonably Anticipated to be a Human Carcinogen  
 OSHA: (Occupational Safety & Health Administration) X - Present

## 12. ECOLOGICAL INFORMATION

### 12.1 Toxicity

#### Ecotoxicity effects

Chemical Name	Toxicity to algae	Toxicity to fish	Toxicity to microorganisms	Toxicity to daphnia and other aquatic invertebrates
Copper	EC50 72 h 0.0426 - 0.0535 mg/L (Pseudokirchneriella subcapitata ) EC50 96 h 0.031 - 0.054 mg/L (Pseudokirchneriella subcapitata )	LC50 96 h 0.0068 - 0.0156 mg/L (Pimephales promelas - ) LC50 96 h < 0.3 mg/L (Pimephales promelas - static) LC50 96 h = 0.2 mg/L (Pimephales promelas - flow-through) LC50 96 h = 0.052 mg/L (Öncorhynchus mykiss - flow-through) LC50 96 h = 1.25 mg/L (Lepomis macrochirus - static) LC50 96 h = 0.3 mg/L (Cyprinus carpio - semi-static) LC50 96 h = 0.8 mg/L (Cyprinus carpio - static) LC50 96 h = 0.112 mg/L (Poecilia reticulata - flow-through) EC50 48 h = 0.03 mg/L (Daphnia magna Static)	-	EC50 48 h = 0.03 mg/L (Daphnia magna Static)

### 12.2 Persistence and degradability

Product does not meet the criteria as persistent. Copper cannot be degraded, but may be transformed between different phases, chemical species and oxidation states.

**12.3 Bioaccumulative potential**

Does not bioaccumulate.

**12.4 Mobility in soil**

Copper-ions bind strongly to the soil matrix. The binding depends on the soil properties. A median water-soil partitioning coefficient (Kp) of 2120 L/kg has been derived for soils. See section 16. Further information.

**12.5 Results of PBT and vPvB assessment**

Not relevant for inorganic substances

**12.6 Other adverse effects**

Copper is not expected to contribute to ozone depletion, ozone formation, global warming or acidification.

**13. DISPOSAL CONSIDERATIONS****13.1 Waste treatment methods****Product disposal**

Recycle where possible. Dispose of in accordance with all applicable national environmental laws and regulations.

**Packaging disposal**

Dispose of in accordance with local regulations.

**14. TRANSPORT INFORMATION****DOT**

UN/ID No	Not applicable
Proper shipping name	Not applicable
Transport hazard class(es)	Not applicable
Packaging group	Not applicable

**TDG****ICAO/IATA**

UN/ID No	Not applicable
Proper shipping name	Not applicable
Transport hazard class(es)	Not applicable
Packing Group	Not applicable



**IMDG / IMO**

UN/ID No	Not applicable
Proper shipping name	Not applicable
Transport hazard class(es)	Not applicable
Packing Group	Not applicable

**15. REGULATORY INFORMATION****15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture****International Inventories**

All of the components in the product are on the following Inventory lists:

TSCA	Complies
EINECS/ELINCS	Complies
DSL/NDSL	Complies
ENCS	-
IECSC	Complies
KECL	Complies
PICCS	Complies
AICS	Complies

**Legend:**

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory

DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List

EINECS/ELINCS - European Inventory of Existing Commercial Chemical Substances/EU List of Notified Chemical Substances

ENCS - Japan Existing and New Chemical Substances

IECSC - China Inventory of Existing Chemical Substances

KECL - Korean Existing and Evaluated Chemical Substances

PICCS - Philippines Inventory of Chemicals and Chemical Substances

AICS - Australian Inventory of Chemical Substances

**U.S. Federal Regulations****U.S. - TSCA (Toxic Substances Control Act) - Section 5(a)(2) - Chemicals with Significant New Use Rules (SNURs)**

This product contains no substance listed TSCA Section 5(a)(2)

**SARA 313**

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product contains a chemical or chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372:

Chemical Name	CAS-No	SARA 313 - Threshold Values %
Copper - 7440-50-8	7440-50-8	1.0

**SARA 311/312 Hazard Categories**

Acute Health Hazard	No
Chronic Health Hazard	No
Fire Hazard	No
Sudden Release of Pressure Hazard	No
Reactive Hazard	No

**Clean Water Act**

This product contains the following substances which are regulated pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42):

Chemical Name	CWA - Reportable Quantities	CWA - Toxic Pollutants	CWA - Priority Pollutants	CWA - Hazardous Substances
Copper 7440-50-8		X	X	

**CERCLA**

This material, as supplied, contains one or more substances regulated as a hazardous substance under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302):

Chemical Name	Hazardous Substances RQs	Extremely Hazardous Substances RQs	RQ
Copper 7440-50-8	5000 lb		RQ 5000 lb final RQ RQ 2270 kg final RQ

**U.S. State Regulations**

Chemical Name	New Jersey	Massachusetts	Pennsylvania	Illinois	Rhode Island
Copper 7440-50-8	X	X	X	X	X
Aluminum 7429-90-5	X	X	X		X

**California Proposition 65**

This product does not contain any Proposition 65 chemicals.

**16. OTHER INFORMATION INCLUDING DATE OF PREPARATION OR LAST REVISION**

<b>NFPA</b>	Health Hazard 1	Flammability 0	Instability 0	Physical and chemical hazards -
<b>HMIS</b>	Health Hazard 1	Flammability 0	Physical Hazard 0	Personal protection E

**Abbreviations**

EC50: median effective concentration  
 LC50: median lethal concentration.  
 LD50: median lethal dose.  
 NIOSH: The National Institute for Occupational Safety and Health  
 NOEC: no observable effect concentration  
 OEL: occupational exposure limit  
 OSHA: Occupational Safety & Health Administration  
 PBT: Persistent, bioaccumulative, and toxic chemicals  
 PNEC: Predicted no effect concentration (PNEC)  
 STEL: short-term exposure limit  
 TLV: Substance with TLV-values  
 TWA: Time weighted average  
 vPvB: very persistent, very bioaccumulative chemical

Revision Date	20-May-2015
Revision Note	No information available.
Further information	Copper risk assessment report 2008 and copper Chemical Safety report, 2010.
Method for classification	Bridging principles.

**Disclaimer**

The information provided on this SDS is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guide for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered as a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other material or in any process, unless specified in the text.

end