SAFETY DATA SHEET

Preparation Date: 12/27/2016 **Revision date** 4/9/2019 **Revision Number:** G2

1. IDENTIFICATION

Product identifier

Product code: C1696
Product Name: COPPER METAL, SHOT, ACS

Other means of identification
Synonyms: No information available
CAS #: 7440-50-8
RTECS # GL5325000
CI#: Not available

Recommended use of the chemical and restrictions on use
Recommended use: No information available.
Uses advised against No information available

Supplier:
Spectrum Chemical Mfg. Corp
14422 South San Pedro St.
Gardena, CA 90248
(310) 516-8000

Order Online At: https://www.spectrumchemical.com
Emergency telephone number Chemtrec 1-800-424-9300
Contact Person: Tom Tyner (USA - West Coast)
Contact Person: Ibad Tirmiz (USA - East Coast)

2. HAZARDS IDENTIFICATION

Classification

This chemical is not considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

Not a dangerous substance or mixture according to the Globally Harmonized System (GHS)

Label elements

Not classified

Hazards not otherwise classified (HNOC)
Not Applicable

Other hazards
Not available

3. COMPOSITION/INFORMATION ON INGREDIENTS

Component	CAS No	Weight-%
Copper Metal	7440-50-8	100

4. FIRST AID MEASURES

First aid measures

General Advice: National Capital Poison Center in the United States can provide assistance if you have a poison emergency and need to talk to a poison specialist. Call 1-800-222-1222.

Skin Contact: Wash off immediately with soap and plenty of water removing all contaminated clothing and shoes. Get medical attention if irritation develops. Consult a physician if necessary.

Eye Contact: Flush eyes with water for 15 minutes. Get medical attention if irritation occurs. If symptoms persist, call a physician.

Inhalation: Move to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.

Ingestion: Do not induce vomiting without medical advice. Never give anything by mouth to an unconscious person. Consult a physician if necessary.

Most important symptoms and effects, both acute and delayed

Symptoms Health injuries are not known or expected under normal use
Ingestion may cause nausea, vomiting, and diarrhea

Indication of any immediate medical attention and special treatment needed

Notes to Physician: Treat symptomatically.

Protection of first-aiders
First-Aid Providers: Avoid exposure to blood or body fluids. Wear gloves and other necessary protective clothing. Dispose of contaminated clothing and equipment as bio-hazardous waste.

5. FIRE-FIGHTING MEASURES

Extinguishing Media

Suitable Extinguishing Media: The product is not flammable. If it is involved in a fire, extinguish the fire using an agent suitable for the type of surrounding fire.

Unsuitable Extinguishing Media: No information available.

Specific hazards arising from the chemical

Hazardous combustion products If it is involved in a fire the following can be released:. copper oxides.

Specific hazards No information available.

Special Protective Actions for Firefighters

Specific Methods: No information available

Special Protective Equipment for Firefighters: As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Personal Precautions: Use personal protective equipment. Avoid contact with skin, eyes and clothing.

Environmental precautions Prevent further leakage or spillage if safe to do so.

Methods and material for containment and cleaning up

Methods for containment Stop leak if you can do it without risk. Cover with plastic sheet to prevent spreading.

Methods for cleaning up Sweep up and shovel into suitable containers for disposal. Clean contaminated surface thoroughly.

7. HANDLING AND STORAGE

Precautions for safe handling

Technical Measures/Precautions:
Provide sufficient air exchange and/or exhaust in work rooms. Keep away from incompatible materials.

Safe Handling Advice
Wear personal protective equipment. Avoid contact with skin, eyes and clothing. Keep away from heat and sources of ignition. Do not ingest. Handle in accordance with good industrial hygiene and safety practice.

Conditions for safe storage, including any incompatibilities

Technical Measures/Storage Conditions:
Keep container tightly closed in a dry and well-ventilated place. Store at room temperature in the original container. Store away from incompatible materials.

Incompatible Materials:
Oxidizing agents
Strong bases
Strong acids
Ammonia

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

National occupational exposure limits

United States

Component	CAS No	OSHA	NIOSH	ACGIH	AIHA WEEL
Copper Metal	7440-50-8	0.1 mg/m³ TWA 1 mg/m³ TWA	1 mg/m³ TWA 0.1 mg/m³ TWA	0.2 mg/m³ TWA fume	None

Canada

Component	CAS No	**Canada - Alberta**	**Canada - British Columbia**	**Canada - Ontario**	**Canada - Quebec**
Copper Metal	7440-50-8	0.2 mg/m³ TWA fume 1 mg/m³ TWA dust and mist	1 mg/m³ TWA dust and mist 0.2 mg/m³ TWA fume	None	None

Australia and Mexico

Component	CAS No	**Australia**	**Mexico**
Copper Metal	7440-50-8	1 mg/m³ TWA 0.2 mg/m³ TWA	0.2 mg/m³ TWA 1 mg/m³ TWA

Appropriate engineering controls

Engineering measures to reduce exposure: Ensure adequate ventilation. Use process enclosures, local exhaust ventilation, or other engineering controls to keep airborne levels below recommended exposure limits. If user operations generate dust, fume or mist, use ventilation to keep exposure to airborne contaminants below the exposure limit.

Individual protection measures, such as personal protective equipment

Personal Protective Equipment

Eye protection: Safety glasses with side-shields.

Skin and body protection: Chemical resistant apron
Gloves
Long sleeved clothing

Respiratory protection: Respiratory protection is not necessary for normal handling. Good room ventilation or use of local exhaust (fume hood) is sufficient.

Hygiene measures: Avoid contact with skin, eyes and clothing. Wash hands before breaks and immediately after handling the product When using, do not eat, drink or smoke.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state:
Solid

Appearance:
Metal.

Color:
Reddish.

Odor:
Odorless.

Taste
No information available.

Formula
Cu

Molecular/Formula weight (g/mole):
63.54

Flammability (solid, gas)
no data available

Flashpoint (°C/°F):
No information available

Flash Point Tested according to:
Not available

Autoignition Temperature (°C/°F):
No information available

Lower Explosion Limit (%):
No information available

Upper Explosion Limit (%):
No information available

Melting point/range(°C/°F):
1083°C/1981.4°F

Decomposition temperature(°C/°F):
No information available

Boiling point/range(°C/°F):
2595°C/4703°F

Bulk density:
No information available

Density (g/cm3):
No information available

Specific gravity:

8.94	**pH** No information available	**Vapor pressure @ 20°C (kPa):** No information available
Evaporation rate: No information available	**Vapor density:** No information available	**VOC content (g/L):** No information available
Odor threshold (ppm): No information available	**Partition coefficient (n-octanol/water):** No information available	**Viscosity:** No information available
Miscibility: No information available	**Solubility:** Insoluble in water	

10. STABILITY AND REACTIVITY

Reactivity

Reacts violently with ammonium nitrate, bromates, chlorates, iodates, chloride, ethylene oxide, hydrazine mononitrate, hydrazoic acid, potassium oxide, sodium azide
Finely divided copper will react with finally divided bromates (also chlorates or iodates) of barium, calcium, magnesium potassium sodium. or zinc explosively with heat, percussion, and sometimes light friction
Finely divided copper powder reacts violently on contact with oxidizing agents (such as perchlorates, peroxides, permanganates, chlorates, nitrates, chlorine, bromine, and fluorine), and acetylenes

Chemical stability

Stability: Stable under recommended storage conditions.

Possibility of Hazardous Reactions: Hazardous polymerization does not occur

Conditions to avoid: Incompatible materials.

Incompatible Materials: Oxidizing agents
Strong bases
Strong acids
Ammonia

Hazardous decomposition products: No information available.

Other Information

Corrosivity: No information available

Special Remarks on Corrosivity: No information available

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Principal Routes of Exposure:
Ingestion. Inhalation.

Acute Toxicity

Component Information

Copper Metal	
CAS No	7440-50-8

LD50/oral/rat = No information available
LD50/oral/mouse = No information available
LD50/dermal/rabbit = No information available
LD50/dermal/rat = No information available
LC50/inhalation/rat = No information available
LC50/inhalation/mouse = No information available
Other LD50 or LC50information = No information available

Product Information

LD50/oral/rat =
Value - Acute Tox = No information available

LD50/oral/mouse =
Value - Acute Tox Oral = No information available

LD50/dermal/rabbit
Value - Acute Tox = No information available

LD50/dermal/rat
VALUE - Acute Tox Dermal = No information available

LC50/inhalation/rat
VALUE-Vapor = No information available
VALUE-Gas = No information available
VALUE-Dust/Mist = No information available

LC50/Inhalation/mouse
VALUE-Vapor = No information available
VALUE - Gas = No information available
VALUE - Dust/Mist = No information available

Symptoms

Skin Contact:	Granular copper or copper turnings may cause cuts or skin irritation by mechanical action. Handling copper wire copper metal shot is not likely to cause skin irritation.
Eye Contact:	Granular copper or copper turnings, or metal shot do not create dust during handling and will not cause eye irritation by mechanical action from dust formation. These forms of copper are only likely to cause irritation, uveitis, abscess or serious injury if a particle (piece) is lodged in the eye. Handling copper wire or foil will not cause eye irritation.
Inhalation	It is not an inhalation hazard or will not cause respiratory tract irritation since the copper is not in powder form and will not create dust when handled.
Ingestion	Ingestion may cause nausea, vomiting, diarrhea. It may affect the kidneys and liver.
Aspiration hazard	No information available.

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Chronic Toxicity	Prolonged or repeated ingestion may affect the liver, and kidneys. Chronic copper poisoning from exposure to elemental copper is rare and has generally not been described in humans, except in individuals with Wilson disease, in which progressive copper toxicity results from hereditary metabolic disorder involving

deficiency in the copper-binding and transport protein ceruloplasmin.

Sensitization: No information available.

Mutagenic Effects: No information available

Carcinogenic effects: Not considered carcinogenic.

Component	CAS No	IARC	ACGIH - Carcinogens	NTP	OSHA HCS - Carcinogens	Australia - Notifiable Carcinogenic Substances	Australia - Prohibited Carcinogenic Substances
Copper Metal	7440-50-8	Not listed	Not listed	Not listed	Not listed	Not listed	Not listed

ACGIH (American Conference of Governmental Industrial Hygienists)

IARC (International Agency for Research on Cancer)

NTP (National Toxicology Program)

OSHA (Occupational Safety and Health Administration of the US Department of Labor)

Reproductive toxicity No data is available

Reproductive Effects: No information available
Developmental Effects: No information available
Teratogenic Effects: No information available

Specific Target Organ Toxicity

STOT - single exposure No information available.
STOT - repeated exposure No information available.
Target Organs: No information available.

12. ECOLOGICAL INFORMATION

Ecotoxicity

Ecotoxicity effects: Aquatic environment.

Copper Metal - 7440-50-8
Algae/aquatic plants EC50: 0.0426 - 0.0535mg/L (72h, Pseudokirchneriella subcapitata) EC50: 0.031 - 0.054mg/L (96h, Pseudokirchneriella subcapitata)
Fish LC50: 0.0068 - 0.0156mg/L (96h, Pimephales promelas) LC50: <0.3mg/L (96h, Pimephales promelas) LC50: =0.2mg/L (96h, Pimephales promelas) LC50: =0.052mg/L (96h, Oncorhynchus mykiss) LC50: =1.25mg/L (96h, Lepomis macrochirus) LC50: =0.3mg/L (96h, Cyprinus carpio) LC50: =0.8mg/L (96h, Cyprinus carpio) LC50: =0.112mg/L (96h, Poecilia reticulata)
Crustacea EC50: =0.03mg/L (48h, Daphnia magna)

Persistence and degradability: No information available

Bioaccumulative potential: No information available.

Mobility in soil No information available
Other adverse effects No information available.

13. DISPOSAL CONSIDERATIONS

Disposal Methods

Waste from residues / unused products:
Waste must be disposed of in accordance with Federal, State and Local regulation.

Contaminated packaging:
Empty containers should be taken for local recycling, recovery or waste disposal

Component	CAS No	RCRA - F Series Wastes	RCRA - K Series Wastes	RCRA - P Series Wastes	RCRA - U Series Wastes
Copper Metal	7440-50-8	None	None	None	None

14. TRANSPORT INFORMATION

DOT

UN-No:	Not Regulated
Proper Shipping Name:	No information available
Hazard Class	No information available
Subsidiary Class	No information available
Packing group:	No information available
Emergency Response Guide Number	No information available
Marine Pollutant	No data available
DOT RQ (lbs):	No information available
Special Provisions	No Information available
Symbol(s):	No information available
Description:	No information available

TDG (Canada)

UN-No:	Not Regulated
Proper Shipping Name:	No information available
Hazard Class	No information available
Subsidiary Risk:	No information available
Packing Group:	No information available
Marine Pollutant	No Information available
Description:	No information available

ADR

UN Number	Not regulated
Proper Shipping Name:	No information available
Transport hazard class(es)	No information available
Packing group	No information available
Subsidiary Risk:	No information available

IMDG

UN-No:	Not Regulated
Proper Shipping Name:	No information available
Hazard Class:	No information available
Subsidiary Risk:	No information available
Packing Group:	No information available
Marine Pollutant	No information available

RID

UN Number	Not Regulated

Proper Shipping Name: No information available
Transport hazard class(es) No information available
Subsidiary Risk: No information available
Packing group No information available

ICAO (air)
UN-No: Not Regulated
Proper Shipping Name: No information available
Hazard Class No information available
Subsidiary Risk: No information available
Packing Group: No information available

IATA
UN Number Not Regulated
Proper Shipping Name: No information available
Transport hazard class(es) No information available
Subsidiary Risk: No information available
Packing group No information available
Precautionary Statements - Response No information available
Special Provisions No information available

15. REGULATORY INFORMATION

International Inventories

Component	CAS No	U.S. TSCA	KOREA KECL	Philippines (PICCS)	Japan ENCS	China IECSC	Australia (AICS)	EINECS-No.
Copper Metal	7440-50-8	PresentACTIVE	Present KE-08896	Present	Not present	Present	Present	Present 231-159-6

U.S. Regulations

Copper Metal
Massachusetts RTK: Present
New Jersey RTK Hazardous Substance List: 0528
New Jersey (EHS) List: 0528 500 lb TPQ
New Jersey - Discharge Prevention - List of Hazardous Substances: Present
Pennsylvania RTK: Environmental hazard
Pennsylvania RTK - Environmental Hazard List Present
Michigan - Critical Materials List: Present
Minnesota - Hazardous Substance List: Present
New York Release Reporting - List of Hazardous Substances:
5000 lb RQ
100 lb RQ
Louisana Reportable Quantity List for Pollutants: 5000lbfinal RQAs listed in 40 CFR 302.4 Table 302.4. No reporting of releases of this hazardous substance is required if the diameter of the pieces of the solid metal released is >=100 µm
2270kgfinal RQAs listed in 40 CFR 302.4 Table 302.4. No reporting of releases of this hazardous substance is required if the diameter of the pieces of the solid metal released is >=100 µm
100lbRQAs listed in Louisiana Administrative Code, Title 33, Part 1, Subpart 2, Chapter 39, Subchapter E. Applies to unauthorized emissions based on total mass emitted into the atmosphere. No reporting of releases of this hazardous substance is required if the diameter of the pieces of the solid metal released is >=100 µm
5000lbRQAs listed in Louisiana Administrative Code, Title 33, Part 1, Subpart 2, Chapter 39, Subchapter E. Applies to unauthorized emissions based on total mass emitted into or onto all media within any consecutive 24-hour period. No reporting of releases of this hazardous substance is required if the diameter of the pieces of the solid metal released is >=100 µm
California Directors List of Hazardous Substances: Present

California Prop. 65: Safe Drinking Water and Toxic Enforcement Act of 1986.

Chemicals Known to the State of California to Cause Cancer:
This product does not contain a chemical requiring a warning under California Prop. 65. (See table below)

Chemicals Known to the State of California to Cause Reproductive Toxicity:
This product does not contain a chemical requiring a warning under California Prop. 65. (See table below)

Component	CAS No	Carcinogen	Developmental Toxicity	Male Reproductive Toxicity	Female Reproductive Toxicity:
Copper Metal	7440-50-8	Not Listed	Not Listed	Not Listed	Not Listed

CERCLA/SARA

Component	CAS No	CERCLA - Hazardous Substances and their Reportable Quantities	Section 302 Extremely Hazardous Substances and TPQs	Section 302 Extremely Hazardous Substances and RQs	Section 313 - Chemical Category	Section 313 - Reporting de minimis
Copper Metal	7440-50-8	5000 lb final RQ 2270 kg final RQ	None	None	None	1.0 % de minimis concentration

U.S. TSCA

Component	CAS No	TSCA Section 5(a)2 - Chemicals With Significant New Use Rules (SNURS)	TSCA 8(d) -Health and Safety Reporting
Copper Metal	7440-50-8	Not Applicable	Not Applicable

Canada

WHIMIS 2015 - GHS Classifications

WHMIS 2015 Hazard Classification Information: .

Component	WHMIS 2015 Hazard Classification
Copper Metal 7440-50-8 (100)	Acute toxicity - Oral - Category 4: H302 Harmful if swallowed.; Combustible Dust - Category 1: May form combustible dust concentrations in air (factors such as combustibility and explosiveness of dusts including composition and shape and size of particles could cause substance to belong to 'Combustible dust' hazard class)

Canada Hazardous Products Regulation This product has been classified according to the hazard criteria of the HPR (Hazardous Products Regulation) and the SDS contains all of the information required by the HPR

DSL/NDSL

Component	CAS No	Canada (DSL)	Canada (NDSL)
Copper Metal	7440-50-8	Present	Not Listed

Component	CAS No	CEPA Schedule I - Toxic Substances
Copper Metal	7440-50-8	Not listed
Component	CAS No	CEPA - 2010 Greenhouse Gases Subject to Mandatory Reporting
Copper Metal	7440-50-8	Not listed

EU Classification

EU GHS - SV - CLP 1272/2008

Component	CAS No	EU GHS - SV - CLP (1272/2008)

Copper Metal	7440-50-8	

EU - CLP (1272/2008)

R-phrase(s)
not determined (not applicable)

S -phrase(s)
none

Component	CAS No	**Classification**	**Concentration Limits:**	**Safety Phrases**
Copper Metal	7440-50-8		No information	

The product is classified in accordance with Annex VI to Directive 67/548/EEC

Indication of danger:
None

16. OTHER INFORMATION

Preparation Date: 12/27/2016
Revision date 4/9/2019
Prepared by: Sonia Owen

Disclaimer: All chemicals may pose unknown hazards and should be used with caution. This Safety Data Sheet (SDS) applies only to the material as packaged. If this product is combined with other materials, deteriorates, or becomes contaminated, it may pose hazards not mentioned in this SDS. The physical properties reported in this SDS are obtained from the literature and do not constitute product specifications. Information contained herein does not constitute a warranty, whether expressed or implied, as to the safety, merchantability or fitness of the goods for a particular purpose. Spectrum Chemicals & Laboratory Products, Inc. assumes no responsibility for results obtained or for incidental or consequential damages, including lost profits, arising from the use of these data. No warranty against infringement of any patent, copyright or trademark is made or implied. It shall be the user's responsibility to develop proper methods of handling and personal protection based on the actual conditions of use. While this SDS is based on technical data judged to be reliable, Spectrum assumes no responsibility for the completeness or accuracy of the information contained herein.

End of Safety Data Sheet