

SAFETY DATA SHEET

according to the Hazard Communication Standard, 29 CFR 1910.1200 (OSHA HazCom 2012, GHS)

Version 1.0
Revision date: 30 September 2026
Print date: 30 September 2026

Product name: **AHK-Cu**

SDS number: SDS-AVX-AHKCU

Product form: Substance, lyophilized powder

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1 Product identifiers

Product name	AHK-Cu
Synonyms	L-Alanyl-L-histidyl-L-lysine copper(II) complex; Ala-His-Lys-Cu
CAS No.	682809-81-0
Molecular formula	C ₁₅ H ₂₆ N ₆ O ₄ · Cu
Molecular weight	417.9 (complex); 354.4 (free peptide) g/mol
Sequence / structure	Ala-His-Lys (copper complex)
Catalog page	averixlabs.com/product/ahk-cu/

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

Identified uses	Laboratory chemical for research and development. For in-vitro research use only.
Uses advised against	Not for human or animal use. Not for diagnostic, therapeutic or veterinary use. Not a drug, dietary supplement, food or cosmetic. Not for resale.

1.3 Details of the supplier of the safety data sheet

Company	Averix LLC, trading as Averix Labs
Address	8101 College Blvd Ste 130, PMB 259286, Overland Park, Kansas 66210-2793, United States
Telephone	+1 785-755-2055
E-mail	contact@averixlabs.com
Website	averixlabs.com

1.4 Emergency telephone number

Emergency phone	+1 785-755-2055 (Monday to Friday, 9:00 to 17:00 Central)
Poison Control (US)	1-800-222-1222 (24 hours)

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

GHS classification in accordance with 29 CFR 1910.1200: Not a hazardous substance or mixture according to the criteria of the Hazard Communication Standard, on the basis of the available data.

The product contains copper(II) complexed to the peptide. Copper compounds as a class are classified as hazardous to the aquatic environment; no test data exist for this complex, and the product should be handled as potentially harmful to aquatic life (see Sections 12 and 13).

2.2 GHS label elements, including precautionary statements

Pictogram	None
Signal word	None
Hazard statement(s)	None
Precautionary statement(s)	None required. Recommended: P261 Avoid breathing dust. P280 Wear protective gloves, protective clothing and eye protection. P264 Wash hands thoroughly after handling.
Supplemental label statement	"For research use only. Not for human or animal use."

2.3 Hazards not otherwise classified (HNOC) or not covered by GHS

None known. Fine lyophilized powder may form dust when handled dry. The compound is biologically active in living systems and its effects on exposure are not characterized; treat any unintended exposure (ingestion, inhalation, injection, mucous membrane contact) as exposure to a substance of unknown toxicity.

SECTION 3: Composition/information on ingredients**3.1 Substances**

Component	CAS No.	Molecular formula	Mol. weight (g/mol)	Concentration	GHS classification
AHK-Cu (L-Alanyl-L-histidyl-L-lysine copper(II) complex)	682809-81-0	C ₁₅ H ₂₆ N ₆ O ₄ · Cu	417.9 (complex); 354.4 (free peptide)	Purity as stated on the lot certificate of analysis (HPLC)	Not classified

Other components: residual counter-ion (acetate or trifluoroacetate) from synthesis and residual moisture, within certificate limits. No other ingredients.

3.2 Mixtures

Not applicable.

SECTION 4: First aid measures**4.1 Description of first aid measures**

General advice	Show this safety data sheet to the doctor in attendance. Move out of the dangerous area.
If inhaled	Move the person into fresh air. If not breathing, give artificial respiration. Consult a physician if symptoms occur.
In case of skin contact	Wash off with soap and plenty of water. Remove contaminated clothing. Consult a physician if irritation develops.
In case of eye contact	Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do. Continue rinsing. Consult a physician if irritation persists.
If swallowed	Rinse mouth with water. Never give anything by mouth to an unconscious person. Do not induce vomiting. Consult a physician.
Accidental injection	Treat as exposure to a substance of unknown effect. Seek medical attention promptly and show this data sheet.

4.2 Most important symptoms and effects, both acute and delayed

No data available. The most important known symptoms and effects are described in Section 2.2 and Section 11.

4.3 Indication of any immediate medical attention and special treatment needed

Treat symptomatically. No specific antidote is known.

SECTION 5: Firefighting measures**5.1 Extinguishing media**

Suitable extinguishing media	Water spray, alcohol-resistant foam, dry chemical or carbon dioxide.
Unsuitable extinguishing media	None known.

5.2 Special hazards arising from the substance or mixture

Not flammable. Hazardous combustion products: carbon oxides, nitrogen oxides (NO_x), copper oxides.

5.3 Advice for firefighters

Wear self-contained breathing apparatus for firefighting if necessary.

5.4 Further information

No data available.

SECTION 6: Accidental release measures**6.1 Personal precautions, protective equipment and emergency procedures**

Use personal protective equipment (Section 8). Avoid dust formation. Avoid breathing dust. Ensure adequate ventilation. Evacuate personnel to safe areas if necessary.

6.2 Environmental precautions

Do not let product enter drains; the product contains copper and should be kept out of watercourses.

6.3 Methods and materials for containment and cleaning up

Cover dry spill with a damp paper towel to prevent dust, then pick up and arrange disposal. Sweep up and shovel. Keep in suitable, closed containers for disposal. Wipe the surface with water and detergent.

6.4 Reference to other sections

For disposal see Section 13.

SECTION 7: Handling and storage**7.1 Precautions for safe handling**

Avoid contact with skin and eyes. Avoid formation of dust and aerosols; weigh in a ventilated enclosure where practical. Provide appropriate exhaust ventilation at places where dust is formed. Wash hands after handling. Do not eat, drink or smoke in the handling area. Reconstitute only with an appropriate sterile diluent for laboratory use. For precautions see Section 2.2.

7.2 Conditions for safe storage, including any incompatibilities

Storage conditions	Keep container tightly closed in a dry place, protected from light. Recommended: 2 to 8 C for short-term storage; -20 C or below for long-term storage. Stable at ambient temperature for the duration of shipping and short handling.
Reconstituted solutions	Store refrigerated (2 to 8 C); prepare fresh where possible; avoid repeated freeze-thaw.
Storage class	Non-combustible solids (TRGS 510 class 13).
Incompatible materials	Strong oxidizing agents, strong acids and bases.

7.3 Specific end use(s)

Apart from the uses in Section 1.2 no other specific uses are stipulated.

SECTION 8: Exposure controls/personal protection**8.1 Control parameters**

Component	CAS No.	Value	Control parameter	Basis
AHK-Cu	682809-81-0	None	No occupational exposure limit established (OSHA PEL, ACGIH TLV, NIOSH REL)	

8.2 Exposure controls

Appropriate engineering controls	Handle in accordance with good industrial hygiene and safety practice. General laboratory ventilation; use a ventilated enclosure or fume hood when handling the dry powder in quantities that may generate dust. Wash hands before breaks and at the end of the workday.
Eye/face protection	Safety glasses with side-shields conforming to ANSI Z87.1 or EN 166.
Skin protection	Handle with gloves. Nitrile rubber gloves inspected before use; use proper glove removal technique. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practice. Laboratory coat.
Respiratory protection	Not required under normal handling. Where dust is generated outside a ventilated enclosure, use a NIOSH-approved N95 particulate respirator (or EN 149 FFP2).
Control of environmental exposure	Do not let product enter drains.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Property	Value
a) Appearance	Form: lyophilized powder. Color: white to off-white; blue to blue-violet (copper complex).
b) Odor	Odorless
c) Odor threshold	No data available
d) pH	Not applicable (solid); reconstituted aqueous solutions are near neutral
e) Melting point/freezing point	No data available; peptides decompose before melting
f) Initial boiling point and boiling range	Not applicable
g) Flash point	Not applicable
h) Evaporation rate	Not applicable
i) Flammability (solid, gas)	Not flammable
j) Upper/lower flammability or explosive limits	Not applicable
k) Vapor pressure	Not applicable
l) Vapor density	Not applicable
m) Relative density	No data available
n) Water solubility	Soluble
o) Partition coefficient: n-octanol/water	No data available
p) Auto-ignition temperature	No data available
q) Decomposition temperature	No data available
r) Viscosity	Not applicable
s) Explosive properties	Not explosive
t) Oxidizing properties	None

9.2 Other safety information

Molecular weight: 417.9 (complex); 354.4 (free peptide) g/mol. No further data available.

SECTION 10: Stability and reactivity

10.1 Reactivity	No data available. No hazardous reactions known under normal laboratory conditions.
10.2 Chemical stability	Stable under recommended storage conditions (Section 7.2). Solutions are less stable than the lyophilized solid.
10.3 Possibility of hazardous reactions	No data available.
10.4 Conditions to avoid	Heat, prolonged light exposure, moisture ingress into the sealed vial, repeated freeze-thaw of solutions.
10.5 Incompatible materials	Strong oxidizing agents, strong acids, strong bases.
10.6 Hazardous decomposition products	Hazardous decomposition products formed under fire conditions: carbon oxides, nitrogen oxides, copper oxides. Other decomposition products: no data available.

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Acute toxicity	No data available (oral, dermal, inhalation).
Skin corrosion/irritation	No data available.
Serious eye damage/eye irritation	No data available.
Respiratory or skin sensitization	No data available.
Germ cell mutagenicity	No data available.
Carcinogenicity	IARC: no component of this product present at levels greater than or equal to 0.1% is identified as a probable, possible or confirmed human carcinogen by IARC. NTP: not listed. OSHA: not listed.

Reproductive toxicity	No data available.
Specific target organ toxicity, single exposure	No data available.
Specific target organ toxicity, repeated exposure	No data available.
Aspiration hazard	No data available.
Additional information	The product is a synthetic peptide with biological activity in living systems that is the subject of research and is not characterized for the purpose of this data sheet. RTECS: not available. To the best of our knowledge, the chemical, physical and toxicological properties have not been thoroughly investigated.

SECTION 12: Ecological information

12.1 Toxicity	No test data for this product. Copper compounds are toxic to aquatic organisms; assume harmful to aquatic life.
12.2 Persistence and degradability	Peptides are expected to be readily biodegradable; no data available for this product.
12.3 Bioaccumulative potential	Not expected to bioaccumulate; no data available.
12.4 Mobility in soil	No data available.
12.5 Results of PBT and vPvB assessment	PBT/vPvB assessment not available; chemical safety assessment not carried out.
12.6 Other adverse effects	No data available. Do not release copper-containing product to the environment.

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Product	Offer surplus and non-recyclable solutions to a licensed disposal company as copper-containing chemical waste. Dispose of in accordance with federal, state and local regulations. Do not discharge to drains. Not a listed hazardous waste under 40 CFR 261 as supplied; the generator is responsible for waste determination at the point of disposal.
Contaminated packaging	Dispose of as unused product. Empty vials may be rinsed and handled as laboratory glass.

SECTION 14: Transport information

	DOT (US, 49 CFR)	IMDG	IATA
14.1 UN number	Not dangerous goods	Not dangerous goods	Not dangerous goods
14.2 UN proper shipping name	Not regulated	Not regulated	Not regulated
14.3 Transport hazard class(es)	None	None	None
14.4 Packing group	None	None	None
14.5 Environmental hazards	No (not a marine pollutant at quantities shipped)	No	No
14.6 Special precautions for user	Ships at ambient temperature in a sealed vial in a cushioned carton		

14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code: not applicable.

SECTION 15: Regulatory information

SARA 302 Components	No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.
SARA 313 Components	Copper compounds are listed under SARA 313 (Copper Compounds category); reporting thresholds are not reached at laboratory quantities.
SARA 311/312 Hazards	No SARA hazards.

CERCLA	Copper compounds are CERCLA hazardous substances; reportable quantities are not reached at laboratory quantities.
Massachusetts, New Jersey, Pennsylvania Right to Know	Not listed.
California Proposition 65	This product does not contain any chemicals known to the State of California to cause cancer, birth defects or any other reproductive harm, to the knowledge of the supplier.
TSCA	Research and development substance supplied in small quantities solely for research purposes (40 CFR 720.36). Not otherwise listed on the TSCA inventory.
Controlled substances	Not a controlled substance under 21 U.S.C. 812. Not a DEA List I or List II chemical (21 CFR 1310.02).
Drug status	Research chemical. Not an approved drug. Not for human or animal use.

SECTION 16: Other information

Full text of H-Statements referred to under Sections 2 and 3

None.

Abbreviations and acronyms

ACGIH: American Conference of Governmental Industrial Hygienists. CAS: Chemical Abstracts Service. GHS: Globally Harmonized System of Classification and Labelling of Chemicals. IARC: International Agency for Research on Cancer. IATA: International Air Transport Association. IMDG: International Maritime Dangerous Goods Code. NIOSH: National Institute for Occupational Safety and Health. NTP: National Toxicology Program. OSHA: Occupational Safety and Health Administration. PBT: persistent, bioaccumulative and toxic. PEL: permissible exposure limit. REL: recommended exposure limit. RTECS: Registry of Toxic Effects of Chemical Substances. SARA: Superfund Amendments and Reauthorization Act. TLV: threshold limit value. TSCA: Toxic Substances Control Act. vPvB: very persistent and very bioaccumulative.

Revision history

Version 1.0, 30 September 2026: first issue. Prepared by Averix Labs from the manufacturer's certificate of analysis and the published properties of the compound.

Further information

The lot-specific certificate of analysis for this product is published at averixlabs.com/coa/ and can be verified at the testing laboratory (Horizon Analytical).

The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. Averix LLC shall not be held liable for any damage resulting from handling or from contact with the above product. This product is supplied for laboratory research use only and is not for human or animal use.