

# SAFETY DATA SHEET

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## SECTION 1. IDENTIFICATION

**Product Identifier:** (4N) 99.99% Copper(II) Tetrafluoroborate

**Product Code:** CU2-FBAT-04

**CAS Number:** 38465-60-0

**Relevant identified uses of the substance:** Scientific research and development

Supplier details:

American Elements  
10884 Weyburn Ave.  
Los Angeles, CA 90024  
Tel: +1 310-208-0551  
Fax: +1 310-208-0351  
Emergency telephone number:  
+1 800-424-9300

## SECTION 2. HAZARDS IDENTIFICATION

This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200).

Classification

Acute toxicity - Oral Category 4

Skin corrosion/irritation Category 1 Sub-category B Serious eye damage/eye irritation Category 1

Label elements

Signal word Danger

Hazard statements



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Symbols/Pictograms

Harmful if swallowed

Causes severe skin burns and eye damage

Precautionary Statements - Prevention Wash face, hands and any exposed skin thoroughly after handling

Do not eat, drink or smoke when using this product

Do not breathe dust/fume/gas/mist/vapors/spray

Wear protective gloves/protective clothing/eye protection/face protection

Precautionary Statements - Response

Immediately call a POISON CENTER or doctor/physician

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing

Immediately call a POISON CENTER or doctor/physician IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower Wash contaminated clothing before reuse

IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing

Immediately call a POISON CENTER or doctor/physician

IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell

Rinse mouth

Do NOT induce vomiting

Precautionary Statements - Storage Store locked up

Precautionary Statements - Disposal Dispose of contents/container to an approved waste disposal plant

Hazards not otherwise classified (HNOC)

Hazards not otherwise classified (HNOC) N/A

Other Information

NFPA

Health hazards - Flammability -

HMIS

Health hazards 3

Flammability 0

Stability - Physical hazards 1

Physical and chemical - properties

Personal protection -

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## SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

CAS No 38465-60-0

Molecular Weight 237.16

Formula Cu(BF<sub>4</sub>)<sub>2</sub>

Chemical Name CAS No Weight % Oral LD50 Dermal LD50 Inhalation LC50

Copper(II) tetrafluoroborate 38465-60-0 >98 - - -

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## SECTION 4. FIRST AID MEASURES

First Aid Measures

General advice Consult a physician if necessary. Remove to fresh air.

Eye contact Wash with plenty of water.

Skin Contact Wash skin with soap and water.

Inhalation Remove to fresh air If breathing is difficult, give oxygen If not breathing, give artificial respiration

Ingestion Never give anything by mouth to an unconscious person. Clean mouth with water.

Most important symptoms and effects, both acute and delayed

Symptoms No data available.

Indication of any immediate medical attention and special treatment needed

Note to physicians Treat symptomatically.

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## SECTION 5. FIREFIGHTING MEASURES

Suitable Extinguishing Media

Suitable Extinguishing Media Use extinguishing measures that are appropriate to local circumstances and the surrounding environment. Unsuitable Extinguishing Media None.

Specific hazards arising from the chemical

Specific hazards arising from the chemical

No data available.

Hazardous combustion products Hydrogen fluoride.

Explosion data

Sensitivity to Mechanical Impact No data available.

Sensitivity to Static Discharge No data available.

Protective equipment and precautions for firefighters

Protective equipment and precautions for firefighters

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

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## **SECTION 6. ACCIDENTAL RELEASE MEASURES**

Personal precautions, protective equipment and emergency procedures

Personal precautions Ensure adequate ventilation, especially in confined areas.

Environmental precautions

Environmental precautions See Section 12 for additional Ecological Information. Prevent product from entering drains.

Should not be released into the environment.

Methods and material for containment and cleaning up

Methods for containment Prevent further leakage or spillage if safe to do so.

Methods for cleaning up Pick up and transfer to properly labeled containers.

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## **SECTION 7. HANDLING AND STORAGE**

Precautions for safe handling

Advice on safe handling May cause damage to organs through prolonged or repeated exposure.

Conditions for safe storage, including any incompatibilities Conditions Keep containers tightly closed in a dry, cool and well-ventilated place. Store at room temperature.

Incompatible materials None known based on information supplied.

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## **SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION**

Control parameters

Exposure Guidelines .

Chemical Name ACGIH TLV OSHA PEL NIOSH IDLH

Copper(II) tetrafluoroborate

38465-60-0 TWA: 1 mg/m<sup>3</sup> Cu dust and mist - IDLH: 100 mg/m<sup>3</sup> Cu dust and mist

TWA: 1 mg/m<sup>3</sup> Cu dust and mist

NIOSH IDLH Immediately Dangerous to Life or Health

Appropriate engineering controls

Engineering Controls Showers

Eyewash stations

Ventilation systems

Individual protection measures, such as personal protective equipment Eye/face protection Wear

safety glasses with side shields (or goggles). Skin and Body Protection Wear protective gloves and protective clothing.

Respiratory protection If exposure limits are exceeded or irritation is experienced, NIOSH/MSHA approved respiratory protection should be worn. Positive-pressure supplied air respirators may be required for high airborne contaminant concentrations. Respiratory protection must be provided in accordance with current local regulations.

General Hygiene Considerations Handle in accordance with good industrial hygiene and safety practice.

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## **SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES**

Physical State liquid

Appearance No data available

Odor No data available

Property Values

pH No data available

Melting point/freezing point No data available

Boiling point No data available

Flash point

No data available

Density No data available

Evaporation rate No data available

Upper flammability limits No data available

Lower flammability limit No data available

Vapor pressure 17

Vapor density No data available

Specific gravity No data available

Water solubility No data available

Solubility in other solvents No data available

Partition coefficient No data available

Autoignition temperature No data available

Decomposition temperature No data available

Kinematic viscosity No data available

Explosive properties No data available

Oxidizing properties No data available

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## **SECTION 10. STABILITY AND REACTIVITY**

Reactivity

N/A

Chemical stability Stable under recommended storage conditions. Possibility of Hazardous Reactions None under normal processing.

Hazardous polymerization No data available.

Conditions to avoid Extremes of temperature and direct sunlight. Incompatible materials Strong oxidizing agents.

Hazardous Decomposition Products Hydrogen fluoride.

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## **SECTION 11. TOXICOLOGICAL INFORMATION**

Information on likely routes of exposure

Inhalation No data available.  
Eye contact No data available. Skin Contact No data available. Ingestion No data available.  
Information on toxicological effects  
Symptoms No data available.  
Delayed and immediate effects as well as chronic effects from short and long-term exposure  
Chronic Toxicity May cause adverse liver effects.  
Target Organ Effects Eyes, Respiratory system, Kidney, Liver, Skin.  
Numerical measures of toxicity - Product Information  
Unknown acute toxicity No data available  
The following values are calculated based on chapter 3.1 of the GHS document  
ATEmix (oral) 500 mg/kg

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## **SECTION 12. ECOLOGICAL INFORMATION**

Ecotoxicity May cause long lasting harmful effects to aquatic life  
100% of the mixture consists of component(s) of unknown hazards to the aquatic environment.  
Persistence and degradability No data available.  
Bioaccumulation No data available.  
Mobility No data available.

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## **SECTION 13. DISPOSAL CONSIDERATIONS**

Disposal of wastes Should not be released into the environment. Disposal should be in accordance with applicable regional, national and local laws and regulations.  
Contaminated packaging Do not reuse container. US EPA Waste Number D002  
California Hazardous Waste Status This product contains one or more substances that are listed with the State of California as a hazardous waste.  
Chemical Name California Hazardous Waste Status  
Copper(II) tetrafluoroborate  
38465-60-0 Toxic

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## **SECTION 14. TRANSPORT INFORMATION**

DOT  
UN/ID no UN3264  
Hazard Class 8  
Packing Group II  
Proper shipping name Corrosive liquid, acidic, inorganic, n.o.s.  
Description UN3264, Corrosive liquid, acidic, inorganic, n.o.s., 8, II  
Emergency Response Guide Number 154  
IMDG  
UN/ID no UN3264  
Hazard Class 8  
Packing Group II  
Proper shipping name Corrosive liquid, acidic, inorganic, n.o.s.  
Description UN3264, Corrosive liquid, acidic, inorganic, n.o.s., 8, II Special Provisions 274  
EmS-No F-A, S-B  
IATA  
UN/ID no UN3264  
Hazard Class 8

Packing Group II

Proper shipping name Corrosive liquid, acidic, inorganic, n.o.s.

Description UN3264, Corrosive liquid, acidic, inorganic, n.o.s., 8, II

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## SECTION 15. REGULATORY INFORMATION

### International Inventories

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

TSCA (United States): Canada (DSL/NDSL) Europe (EINECS/ELINCS/NLP) Australia (AICS) South Korea (KECL): China (IECSC)

ENCS (Japan): Philippines (PICCS)

Chemical Name TSCA DSL NDSL EINECS ELINCS ENCS IECSC KECL PICCS AICS

Copper(II) tetrafluoroborate X - X X - X X X X X

X - Listed

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 Chemical Substances/European 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

US Federal Regulations

SARA 313

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372.

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

CWA (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(II) tetrafluoroborate

38465-60-0 X

US State Regulations

California Proposition 65

This product does not contain any Proposition 65 chemicals.

U.S. State Right-to-Know Regulations

Chemical Name New Jersey Massachusetts Pennsylvania

Copper(II) tetrafluoroborate

38465-60-0 X Not Listed X

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## 16. OTHER INFORMATION

Safety Data Sheet according to Regulation (EC) No. 1907/2006 (REACH). 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

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