

SAFETY DATA SHEET

1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING

Product identifier**Product Name** AACUCN**Other means of identification****Product Description** 1 000 µg/mL Copper**Recommended use of the chemical and restrictions on use****Recommended Use** Laboratory chemicals.**Uses advised against** No information available**Details of the supplier of the safety data sheet****Company**Inorganic Ventures
300 Technology Drive
Christiansburg, VA 24073
web: www.inorganicventures.com**Emergency telephone number****Emergency Telephone Number**Chemtrec 1-800-424-9300 (North America)
Chemtrec +1 703-741-5970 (International)

2. HAZARDS IDENTIFICATION

GHS**Classification**

Acute toxicity - Oral	Category 4
Acute toxicity - Dermal	Category 4

Label Elements**Warning****Hazard statements**Harmful if swallowed
Harmful in contact with skin**Appearance** clear / Pale yellow**Physical state** Liquid**Odor** Bitter almond**Precautionary Statements - Prevention**

Wash face, hands and any exposed skin thoroughly after handling

Do not eat, drink or smoke when using this product
Wear protective gloves/protective clothing/eye protection/face protection

Precautionary Statements - Response**Skin**

IF ON SKIN: Wash with plenty of soap and water
Call a POISON CENTER or doctor/physician if you feel unwell
Wash contaminated clothing before reuse

Ingestion

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

Precautionary Statements - Disposal

Dispose of contents/container to an approved waste disposal plant

Hazards not otherwise classified (HNOC)

- Very toxic to aquatic life with long lasting effects
- Harmful to aquatic life

Other Information

No information available

3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical name	CAS No	Weight-%
Sodium cyanide	143-33-9	0.4
Copper	7440-50-8	0.1

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

General Advice	Immediate medical attention is required. Show this safety data sheet to the doctor in attendance.
Eye Contact	Immediately flush with plenty of water. After initial flushing, remove any contact lenses and continue flushing for at least 15 minutes. Keep eye wide open while rinsing. Do not rub affected area. If symptoms persist, call a physician.
Skin Contact	Immediate medical attention is required. Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes.
Inhalation	Immediate medical attention is required. Remove to fresh air. Artificial respiration and/or oxygen may be necessary. Avoid direct contact with skin. Use barrier to give mouth-to-mouth resuscitation.
Ingestion	Immediate medical attention is required. Do NOT induce vomiting. Clean mouth with water and drink afterwards plenty of water. Never give anything by mouth to an unconscious person.
Self-protection of the first aider	Use personal protective equipment as required. Avoid contact with skin, eyes or clothing.

Most important symptoms and effects, both acute and delayed

Most Important Symptoms and Effects	Difficulty in breathing.
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Indication of any immediate medical attention and special treatment needed

Notes to Physician

Treat as cyanide poisoning. Symptoms may be delayed

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

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

Unsuitable Extinguishing Media Decomposition by contact with water may generate vapors which can be ignited by heat or open flame.

Special Exposure Hazards Arising from the Substance/Mixture

Thermal decomposition can lead to release of irritating and toxic gases and vapors

Explosion Data**Sensitivity to Mechanical Impact** None.**Sensitivity to Static Discharge** None.**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.

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

Evacuate personnel to safe areas. Keep people away from and upwind of spill/leak. Ensure adequate ventilation. Use personal protective equipment as required. Do not get in eyes, on skin, or on clothing.

Other Information

Refer to protective measures listed in Sections 7 and 8.

Environmental precautions**Environmental precautions**

Prevent further leakage or spillage if safe to do so. Prevent product from entering drains. Do not flush into surface water or sanitary sewer system. Do not allow into any sewer, on the ground or into any body of water. Should not be released into the environment. See Section 12 for additional Ecological Information.

Methods and material for containment and cleaning up**Methods for Cleaning up**

Dam up. Soak up with inert absorbent material. Sweep up and shovel into suitable containers for disposal. After cleaning, flush away traces with water. Prevent product from entering drains.

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

Wear personal protective equipment. Ensure adequate ventilation. In case of insufficient ventilation, wear suitable respiratory equipment. Do not get in eyes, on skin, or on clothing. Do not breathe vapors or spray mist.

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

Keep containers tightly closed in a dry, cool and well-ventilated place.

Incompatible Products

None known based on information supplied.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION**Control parameters**

Exposure Guidelines

Chemical name	ACGIH TLV	OSHA PEL	NIOSH IDLH
Sodium cyanide 143-33-9	Skin Ceiling: 5 mg/m ³	TWA: 5 mg/m ³ (vacated) TWA: 5 mg/m ³ Skin	IDLH: 25 mg/m ³ Ceiling: 4.7 ppm Ceiling: 5 mg/m ³
Copper 7440-50-8	TWA: 0.2 mg/m ³ TWA: 1 mg/m ³	TWA: 0.1 mg/m ³ TWA: 1 mg/m ³ (vacated) TWA: 0.1 mg/m ³	IDLH: 100 mg/m ³ TWA: 1 mg/m ³ TWA: 0.1 mg/m ³

Appropriate engineering controls**Engineering Measures**

Ensure adequate ventilation, especially in confined areas.

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

Tightly fitting safety goggles

Skin and Body Protection

Impervious clothing Boots Chemical resistant apron

Hand Protection

Impervious gloves

Respiratory Protection

When workers are facing concentrations above the exposure limit they must use appropriate certified respirators. If exposure limits are exceeded or irritation is experienced, NIOSH/MSHA approved respiratory protection should be worn.

Hygiene Measures

Handle in accordance with good industrial hygiene and safety practice. Wear suitable gloves and eye/face protection. Avoid contact with skin, eyes or clothing. Do not eat, drink or smoke when using this product. Wash hands before breaks and immediately after handling the product. Remove and wash contaminated clothing and gloves, including the inside, before re-use. Contaminated work clothing should not be allowed out of the workplace. Regular cleaning of equipment, work area and clothing is recommended.

9. PHYSICAL AND CHEMICAL PROPERTIES**Information on basic physical and chemical properties****Physical state**

Liquid

Appearance

clear / Pale yellow

Odor

Bitter almond

Property**Values****pH - VALUE 1**

No data available

Melting point / melting range

No data available

Boiling point / boiling range

°C

Flash Point

Not applicable

Evaporation rate

No data available

Flammability (solid, gas)

No data available

Vapor pressure @20 °C (kPa)

No data available

Vapor density

No data available

Relative Density

No data available

Specific gravity - VALUE 1

No data available

Water solubility

Miscible

Partition coefficient: n-octanol/water

No data available

Autoignition temperature

No data available

Decomposition temperature

No data available

Dynamic viscosity - VALUE 1

No data available

Explosive Properties

No information available

Oxidizing Properties

No information available

Other information**VOC Content (%)**

No information available

10. STABILITY AND REACTIVITY**Reactivity**

No data available

Chemical stability

Stable under recommended storage conditions.

Possibility of hazardous reactions

None under normal processing.

Hazardous Polymerization

None under normal processing.

Conditions to Avoid

Heat, flames and sparks.

Incompatible materials

Acids. Strong oxidizing agents

Hazardous decomposition products

Cyanides. Hydrogen cyanide.

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Product Information

Harmful by inhalation Harmful in contact with skin Harmful if swallowed

Inhalation

Harmful by inhalation. Effects of overexposure may be delayed due to the slow formation of cyanide anions in the body. Cyanide anions prevent the body from using oxygen and can lead to internal asphyxiation.

Eye Contact

May cause irritation.

Skin Contact

Harmful in contact with skin. May be absorbed through the skin in harmful amounts. Symptoms may be delayed.

Ingestion

Harmful if swallowed.

Component Information

Chemical name	Oral LD50	Dermal LD50	Inhalation LC50
Sodium cyanide - 143-33-9	= 5.733 mg/kg (Rat)	= 14.602 mg/kg (Rabbit)	= 0.16 mg/L (Rat) 1 h

Information on toxicological effects

Symptoms

No information available.

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

Sensitization

No information available.

Mutagenic Effects

No information available.

Carcinogenic effects

No information available

Reproductive Toxicity

No information available.

STOT - single exposure

No information available.

STOT - repeated exposure

No information available.

Target Organ Effects

Respiratory system, Skin.

Aspiration hazard

No information available.

Numerical measures of toxicity - Product Information

The following values are calculated based on chapter 3.1 of the GHS document

ATEmix (oral) 1433 mg/kg

ATEmix (dermal) 1250 mg/kg

ATEmix (inhalation-dust/mist) 12.5 mg/l

12. ECOLOGICAL INFORMATION**Ecotoxicity**

Contains 0 % of components with unknown hazards to the aquatic environment

Chemical name	Algae/aquatic plants	Fish	Toxicity to microorganisms	Crustacea
Sodium cyanide 143-33-9		0.066 - 0.0852: 96 h Lepomis macrochirus mg/L LC50 flow-through 0.15: 96 h Lepomis macrochirus mg/L LC50 static 0.0391 - 0.0548: 96 h Oncorhynchus mykiss mg/L LC50 static 0.0558 - 0.0586: 96 h Oncorhynchus mykiss mg/L LC50 flow-through 0.0712 - 0.0936: 96 h Pimephales promelas mg/L LC50 flow-through 0.17: 96 h Pimephales promelas mg/L LC50 static		
Copper 7440-50-8	EC50 0.031 - 0.054 mg/L 96 h EC50 0.0426 - 0.0535 mg/L 72 h	0.0068 - 0.0156: 96 h Pimephales promelas mg/L LC50 0.2: 96 h Pimephales promelas mg/L LC50 flow-through 0.3: 96 h Cyprinus carpio mg/L LC50 semi-static 0.3: 96 h Pimephales promelas mg/L LC50 static 1.25: 96 h Lepomis macrochirus mg/L LC50 static 0.8: 96 h Cyprinus carpio mg/L LC50 static 0.052: 96 h Oncorhynchus mykiss mg/L LC50 flow-through 0.112: 96 h Poecilia reticulata mg/L LC50 flow-through		EC50 48 h = 0.03 mg/L (Daphnia magna)

Persistence and Degradability

No information available.

Bioaccumulation

No information available.

Other Adverse Effects**13. DISPOSAL CONSIDERATIONS****Waste treatment methods****Waste from Residues/Unused Products**

Dispose of in accordance with federal, state and local regulations

Contaminated Packaging

Do not reuse empty containers.

Chemical name	RCRA - Halogenated Organic Compounds	RCRA - P Series Wastes	RCRA - F Series Wastes	RCRA - K Series Wastes
Sodium cyanide 143-33-9		not otherwise specified		

Chemical name	California Hazardous Waste Status
Sodium cyanide 143-33-9	Toxic
Copper 7440-50-8	Toxic

14. TRANSPORT INFORMATION

IMDG

14.1. UN-No UN1935
 14.2. Proper shipping name Cyanide solution, n.o.s
 14.3. Transport hazard class(es) 6
 14.4. Packing Group III
 Description Not applicable
 14.5. Marine Pollutant None
 14.6. Special Provisions None
 No information available Transport No information available
 in bulk according
 to Annex II of MARPOL 73/78 and
 the IBC Code

RID

14.1. UN-No UN1935
 14.2. Proper shipping name Cyanide solution, n.o.s
 14.3. Hazard Class 6
 14.4. Packing Group III
 Description Not applicable
 14.5. Environmental hazard None
 14.6. Special Provisions None

ADR

14.1. UN-No UN1935
 14.2. Proper shipping name Cyanide solution, n.o.s
 14.3. Hazard Class 6
 14.4. Packing Group III
 Description Not applicable
 14.5. Environmental hazard None
 14.6. Special Provisions None

ICAO

14.1. UN-No UN1935
 14.2. Proper Shipping Name Cyanide solution, n.o.s
 14.3. Hazard Class 6
 14.4. Packing Group III
 Description Not applicable
 14.5. Environmental hazard None
 14.6. Special Provisions None

IATA-DGR

14.1. UN-No UN1935
 14.2. Proper shipping name Cyanide solution, n.o.s
 14.3. Transport hazard class(es) 6
 14.4. Packing Group III
 Description Not applicable
 14.5. Environmental hazard None
 14.6. Special Provisions None

15. REGULATORY INFORMATION

International Inventories

TSCA Complies

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

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

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

Chemical name	CAS No	Weight-%	SARA 313 - Threshold Values %
Sodium cyanide - 143-33-9	143-33-9	0.4	1.0
Copper - 7440-50-8	7440-50-8	0.1	1.0

SARA 311/312 Hazard Categories

Acute health hazard	Not classified
Chronic Health Hazard	Not classified
Fire hazard	Not classified
Sudden Release of Pressure Hazard	No
Reactive Hazard	Not classified

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
Sodium cyanide 143-33-9	10 lb	X	X	X
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
Sodium cyanide 143-33-9	10 lb	10 lb	RQ 10 lb final RQ RQ 4.54 kg final RQ
Copper 7440-50-8	5000 lb		RQ 5000 lb final RQ RQ 2270 kg final RQ

U.S. State Regulations

California Proposition 65

This product contains the following Proposition 65 chemicals:

Chemical name	California Prop. 65
Sodium cyanide - 143-33-9	Male Reproductive

U.S. State Right-to-Know Regulations

Chemical name	New Jersey	Massachusetts	Pennsylvania
Sodium cyanide 143-33-9	X	X	X
Copper 7440-50-8	X	X	X

U.S. EPA Label Information**16. OTHER INFORMATION**

Revision Date 15-Jun-2023

Revision Note

No information available

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 of SDS