

# SAFETY DATA SHEET

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

### 1.1. Product identifier

Product Name MSCU-100PPM

Product Description 100 µg/mL: Cu  
Pure substance/mixture Mixture

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

Recommended Use Laboratory chemicals

Uses advised against No information available

### 1.3. Details of the supplier of the safety data sheet

#### Company

Inorganic Ventures  
300 Technology Drive  
Christiansburg, VA 24073  
Phone: 1(800) 669-6799  
Email: info@inorganicventures.com

### 1.4. Emergency telephone number

Chemtrec 1-800-424-9300 (North America)

Chemtrec +1 703-741-5970 (International)

|        |           |
|--------|-----------|
| Europe | See above |
|--------|-----------|

## SECTION 2: Hazards identification

### 2.1. Classification of the substance or mixture

Classification according to  
Regulation (EC) No. 1272/2008 [CLP]

#### GHS

|                                   |                     |
|-----------------------------------|---------------------|
| Skin corrosion/irritation         | Category 2 - (H315) |
| Serious eye damage/eye irritation | Category 2 - (H319) |
| Corrosive to metals               | Category 1 - (H290) |

### 2.2. Label elements

#### Product identifier



Signal word  
Warning

**Hazard statements**

H290 - May be corrosive to metals

H315 - Causes skin irritation

H319 - Causes serious eye irritation

EUH071 - Corrosive to the respiratory tract

**Precautionary Statements - EU (§28, 1272/2008)**

P264 - Wash face, hands and any exposed skin thoroughly after handling

P337 + P313 - If eye irritation persists: Get medical advice/attention

**2.3. Other hazards**

Other hazards

Harmful to aquatic life

No information available

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

Not applicable

| Chemical name | EC No. (Index No.)                                              | CAS No.   | Weight-% | Classification according to Regulation (EC) No. 1272/2008 [CLP]              | REACH registration number |
|---------------|-----------------------------------------------------------------|-----------|----------|------------------------------------------------------------------------------|---------------------------|
| Nitric acid   | 231-714-2<br>(007-004-00-1)<br>(007-030-00-3)<br>(078-012-00-0) | 7697-37-2 | 2.1      | (EUH071)<br>Skin Corr. 1A (H314)<br>Ox. Liq. 3 (H272)<br>Acute Tox. 3 (H331) | No data available         |
| Copper        | 231-159-6<br>(029-026-00-0)                                     | 7440-50-8 | 0.01     | Aquatic Chronic 2 (H411)                                                     | No data available         |

Full text of H- and EUH-phrases: see section 16**SECTION 4: First aid measures****4.1. Description of first aid measures****Inhalation**

Remove to fresh air.

**Skin Contact**

Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes.

**Ingestion**

Clean mouth with water and drink afterwards plenty of water.

**4.2. Most important symptoms and effects, both acute and delayed****Most Important Symptoms and Effects**

Asthma-like and/ or skin allergy-like symptoms.

**4.3. Indication of any immediate medical attention and special treatment needed****Notes to Physician**

Treat symptomatically

## SECTION 5: Firefighting measures

### 5.1. Extinguishing media

#### **Suitable Extinguishing Media**

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

#### **Unsuitable Extinguishing Media**

No information available

### 5.2. Special hazards arising from the substance or mixture

Thermal decomposition can lead to release of irritating gases and vapors

### 5.3. Advice for firefighters

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

## SECTION 6: Accidental release measures

### 6.1. Personal precautions, protective equipment and emergency procedures

#### **Personal Precautions**

Ensure adequate ventilation.

#### **Advice for emergency responders**

Ensure adequate ventilation.

### 6.2. Environmental precautions

Prevent further leakage or spillage if safe to do so. See Section 12 for additional Ecological Information.

### 6.3. 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**

Take up mechanically, placing in appropriate containers for disposal.

### 6.4. Reference to other sections

See Section 12: ECOLOGICAL INFORMATION.

## SECTION 7: Handling and storage

### 7.1. Precautions for safe handling

#### **Advice on safe handling**

Ensure adequate ventilation.

#### **Hygiene Measures**

Handle in accordance with good industrial hygiene and safety practice.

### 7.2. Conditions for safe storage, including any incompatibilities

#### **Storage Conditions**

Keep container tightly closed in a dry and well-ventilated place.

### 7.3. Specific end use(s)

## SECTION 8: Exposure controls/personal protection

### 8.1. Control parameters

#### Exposure Limits

| Chemical name            | European Union                                                                         |                                                                                                                                                                                                                                              | United Kingdom                                                                                                     |                                                     | France                                                                                                                                          | Spain                                                                                                                                        | Germany DFG                                                                                                              |
|--------------------------|----------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------|
| Nitric acid<br>7697-37-2 | STEL: 1 ppm;<br>STEL: 2.6 mg/m³;                                                       |                                                                                                                                                                                                                                              | STEL: 1 ppm;<br>STEL: 2.6 mg/m³;                                                                                   |                                                     | STEL-VLCT (indicatif):<br>1 ppm;<br>STEL-VLCT (indicatif):<br>2.6 mg/m³;                                                                        | STEL (VLA-EC): 1<br>ppm;<br>STEL (VLA-EC): 2.6<br>mg/m³;                                                                                     |                                                                                                                          |
| Copper<br>7440-50-8      |                                                                                        |                                                                                                                                                                                                                                              | TWA: 1 mg/m³; dust<br>and mist<br>TWA: 0.2 mg/m³; fume<br>STEL: 0.6 mg/m³; fume<br>STEL: 2 mg/m³; dust<br>and mist |                                                     | TWA-VME: 0.2 mg/m³;<br>fume<br>TWA-VME: 1 mg/m³;<br>dust<br>STEL-VLCT: 2 mg/m³;<br>dust                                                         | TWA-(VLA-ED): 0.01<br>mg/m³; respirable<br>fraction                                                                                          | TWA-MAK: 0.01 mg/m<br>³; II(2); respirable<br>fraction                                                                   |
| Chemical name            | Italy MDLPS                                                                            |                                                                                                                                                                                                                                              | Portugal                                                                                                           |                                                     | Netherlands                                                                                                                                     | Finland                                                                                                                                      | Denmark                                                                                                                  |
| Nitric acid<br>7697-37-2 | STEL: 1 ppm;<br>STEL: 2.6 mg/m³;                                                       |                                                                                                                                                                                                                                              | TWA (VLE-MP): 2 ppm;<br>STEL (VLE-CD): 1<br>ppm;<br>STEL (VLE-CD): 2.6<br>mg/m³;                                   |                                                     | STEL: 0.5 ppm;<br>STEL: 1.3 mg/m³;                                                                                                              | TWA: 0.5 ppm;<br>TWA: 1.3 mg/m³;<br>STEL: 1 ppm;<br>STEL: 2.6 mg/m³;                                                                         | STEL: 1 ppm;<br>STEL: 2.6 mg/m³;                                                                                         |
| Copper<br>7440-50-8      |                                                                                        |                                                                                                                                                                                                                                              | TWA (VLE-MP): 0.2<br>mg/m³; fume<br>TWA (VLE-MP): 1<br>mg/m³; dust; mist                                           |                                                     | TWA: 0.1 mg/m³;<br>inhalable                                                                                                                    | TWA: 0.02 mg/m³;<br>respirable dust                                                                                                          | TWA: 1.0 mg/m³; dust<br>and powder<br>TWA: 0.1 mg/m³; fume<br>STEL: 2 mg/m³; dust<br>and powder<br>STEL: 0.2 mg/m³; fume |
| Chemical name            | Sweden                                                                                 | Austria                                                                                                                                                                                                                                      | Switzerland                                                                                                        | Poland                                              | Norway                                                                                                                                          | Ireland                                                                                                                                      |                                                                                                                          |
| Nitric acid<br>7697-37-2 | LLV: 0.5 ppm<br>LLV: 1.3 mg/m³<br>Binding STLV: 1<br>ppm<br>Binding STLV: 2.6<br>mg/m³ | TWA-TMW: 1 ppm;<br>TWA-TMW:<br>2.6 mg/m³;<br>STEL-KZGW: 1<br>ppm ();<br>STEL-KZGW: 2.6<br>mg/m³ ();<br>Ceiling: 1 ppm;<br>Ceiling: 2.6 mg/m³;                                                                                                | TWA-MAK: 2 ppm;<br>TWA-MAK: 5<br>mg/m³;<br>STEL-KZGW: 2<br>ppm;<br>STEL-KZGW: 5<br>mg/m³;                          | TWA-NDS: 1.4<br>mg/m³;<br>STEL-NDSCh: 2.6<br>mg/m³; | TWA: 2 ppm;<br>TWA: 5 mg/m³;<br>STEL: 4 ppm (value<br>calculated);<br>STEL: 10<br>mg/m³ (value<br>calculated);                                  | STEL: 1 ppm;<br>STEL: 2.6 mg/m³;                                                                                                             |                                                                                                                          |
| Copper<br>7440-50-8      | LLV: 1 mg/m³<br>LLV: 0.2 mg/m³                                                         | TWA-TMW:<br>1 mg/m³; inhalable<br>fraction<br>TWA-TMW:<br>0.1 mg/m³;<br>respirable fraction,<br>smoke<br>STEL-KZGW: 4<br>mg/m³ (4 X 15 min);<br>inhalable fraction<br>STEL-KZGW: 0.4<br>mg/m³ (4 X 15 min);<br>respirable fraction,<br>smoke | TWA-MAK: 0.1<br>mg/m³; inhalable<br>dust<br>STEL-KZGW: 0.2<br>mg/m³; inhalable<br>dust                             | TWA-NDS: 0.2<br>mg/m³;                              | TWA: 0.1 mg/m³;<br>fume<br>TWA: 1 mg/m³; dust<br>STEL: 3<br>mg/m³ (value<br>calculated); dust<br>STEL: 0.3<br>mg/m³ (value<br>calculated); fume | TWA: 0.2 mg/m³;<br>fume<br>TWA: 1 mg/m³;<br>dusts and mists<br>STEL: 2 mg/m³;<br>dusts and mists<br>STEL: 0.6<br>mg/m³ (calculated);<br>fume |                                                                                                                          |

**Derived No Effect Level (DNEL)** No information available

**Predicted No Effect Concentration (PNEC)** No information available.

### 8.2. Exposure controls

**Engineering Measures** Ensure adequate ventilation, especially in confined areas.

**Personal protective equipment**

|                                 |                                                                                                                  |
|---------------------------------|------------------------------------------------------------------------------------------------------------------|
| <b>Eye/Face Protection</b>      | Wear safety glasses with side shields (or goggles).                                                              |
| <b>Hand Protection</b>          | Impervious gloves.                                                                                               |
| <b>Skin and Body Protection</b> | Long sleeved clothing.                                                                                           |
| <b>Respiratory Protection</b>   | When workers are facing concentrations above the exposure limit they must use appropriate certified respirators. |

**Environmental Exposure Controls** No information available.

## SECTION 9: Physical and chemical properties

### 9.1. Information on basic physical and chemical properties

|                                                |                          |
|------------------------------------------------|--------------------------|
| <b>Physical state</b>                          | Liquid                   |
| <b>Appearance</b>                              | clear /colorless         |
| <b>Odor</b>                                    | Odorless                 |
| <b>pH - VALUE 1</b>                            | No data available        |
| <b>Melting point / melting range</b>           | No data available        |
| <b>Initial boiling point and boiling range</b> | 100 °C / 212 °F          |
| <b>Vapor pressure @20 °C (kPa)</b>             | No data available        |
| <b>Relative vapor density</b>                  | No data available        |
| <b>Relative Density</b>                        | No data available        |
| <b>Specific gravity - VALUE 1</b>              | No data available        |
| <b>Water solubility</b>                        | Miscible                 |
| <b>Partition coefficient: n-octanol/water</b>  | No data available        |
| <b>Autoignition temperature</b>                | No data available        |
| <b>Decomposition temperature</b>               | No data available        |
| <b>Dynamic viscosity - VALUE 1</b>             | No data available        |
| <b>Explosive properties</b>                    | No information available |
| <b>Oxidizing Properties</b>                    | No information available |
| <b>VOC content</b>                             | No information available |

## SECTION 10: Stability and reactivity

### 10.1. Reactivity

No data available.

### 10.2. Chemical stability

Stable under normal conditions.

#### Explosion data

|                                  |       |
|----------------------------------|-------|
| Sensitivity to Mechanical Impact | None. |
| Sensitivity to Static Discharge  | None. |

### 10.3. Possibility of hazardous reactions

#### **Hazardous polymerization**

None under normal processing.

#### **Hazardous Reactions**

None under normal processing.

### 10.4. Conditions to avoid

None known.

**10.5. Incompatible materials**

Bases Cyanides

**10.6. Hazardous decomposition products**

Nitrogen oxides (NOx).

**SECTION 11: Toxicological information****11.1. Information on toxicological effects****Acute Toxicity**

**Product Information** Product does not present an acute toxicity hazard based on known or supplied information.

**Inhalation** No data available.

**Eye Contact** No data available.

**Skin Contact** No data available.

**Ingestion** No data available.

The following ATE values have been calculated for the mixture

**ATEmix (inhalation-dust/mist)** 23.90 mg/l

**ATEmix (inhalation-vapor)** 126.20 mg/l

**Unknown acute toxicity**

2.1 % of the mixture consists of ingredient(s) of unknown acute toxicity.

2.1 % of the mixture consists of ingredient(s) of unknown acute oral toxicity.

2.1 % of the mixture consists of ingredient(s) of unknown acute dermal toxicity.

2.1 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (gas).

0 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (vapor).

0 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (dust/mist).

**Component Information**

**Skin corrosion/irritation** No information available.

**Serious eye damage/eye irritation** No information available.

**Sensitization** No information available.

**Mutagenic Effects** No information available.

**Carcinogenic effects**

**Reproductive Toxicity** No information available.

**STOT - single exposure** No information available.

**STOT - repeated exposure** No information available.

**Aspiration hazard** No information available.

**SECTION 12: Ecological information**

**12.1. Toxicity**

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

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

**12.2. Persistence and degradability**

No information available.

**12.3. Bioaccumulative potential**

No information available.

| Chemical name | Partition coefficient |
|---------------|-----------------------|
| Nitric acid   | -2.3                  |

**12.4. Mobility in soil****Mobility in soil**

No information available.

**12.5. Results of PBT and vPvB assessment**

No information available.

| Chemical name | PBT and vPvB assessment |
|---------------|-------------------------|
| Nitric acid   | Not PBT/vPvB            |
| Copper        | Not PBT/vPvB            |

**12.6. Other adverse effects**

## SECTION 13: Disposal considerations

**13.1. 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.

**Other information**

Waste codes should be assigned by the user based on the application for which the product was used.

## SECTION 14: Transport information

**IMDG**

|                                                                                         |                                            |
|-----------------------------------------------------------------------------------------|--------------------------------------------|
| 14.1. UN-No                                                                             | UN3264                                     |
| 14.2. Proper shipping name                                                              | Corrosive liquid, acidic, inorganic, n.o.s |
| 14.3. Transport hazard class(es)                                                        | 8                                          |
| 14.4. Packing Group                                                                     | III                                        |
| Description                                                                             | Not applicable                             |
| 14.5. Marine Pollutant                                                                  | None                                       |
| 14.6. Special Provisions                                                                | None                                       |
| No information available in bulk according to Annex II of MARPOL 73/78 and the IBC Code | No information available                   |

**RID**

|                                  |                                            |
|----------------------------------|--------------------------------------------|
| 14.1. UN-No                      | UN3264                                     |
| 14.2. Proper shipping name       | Corrosive liquid, acidic, inorganic, n.o.s |
| 14.3. Transport hazard class(es) | 8                                          |
| 14.4. Packing Group              | III                                        |
| Description                      | Not applicable                             |
| 14.5. Environmental hazard       | None                                       |
| 14.6. Special Provisions         | None                                       |

**ADR**

|                                  |                                            |
|----------------------------------|--------------------------------------------|
| 14.1. UN-No                      | UN3264                                     |
| 14.2. Proper shipping name       | Corrosive liquid, acidic, inorganic, n.o.s |
| 14.3. Transport hazard class(es) | 8                                          |
| 14.4. Packing Group              | III                                        |
| Description                      | Not applicable                             |
| 14.5. Environmental hazard       | None                                       |
| 14.6. Special Provisions         | None                                       |

**ICAO**

|                            |                                            |
|----------------------------|--------------------------------------------|
| 14.1. UN-No                | UN3264                                     |
| 14.2. Proper Shipping Name | Corrosive liquid, acidic, inorganic, n.o.s |
| 14.3. Hazard Class         | 8                                          |
| 14.4. Packing Group        | III                                        |
| Description                | Not applicable                             |
| 14.5. Environmental hazard | None                                       |
| 14.6. Special Provisions   | None                                       |

**IATA-DGR**

|                                  |                                            |
|----------------------------------|--------------------------------------------|
| 14.1. UN-No                      | UN3264                                     |
| 14.2. Proper shipping name       | Corrosive liquid, acidic, inorganic, n.o.s |
| 14.3. Transport hazard class(es) | 8                                          |
| 14.4. Packing Group              | III                                        |
| Description                      | Not applicable                             |
| 14.5. Environmental hazard       | None                                       |
| 14.6. Special Provisions         | None                                       |

## SECTION 15: Regulatory information

**15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture**

European Union

Take note of Directive 98/24/EC on the protection of the health and safety of workers from the risks related to chemical agents at work

#### International Inventories

**All of the components in the product are on the following Inventory lists:** U.S.A. (TSCA), Europe (EINECS/ELINCS/NLP), Canada (DSL/NDSL), Philippines (PICCS), Japan (ENCS), China (IECSC), Australia (AICS), Korea (ECL).

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

#### Legend

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

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

**PICCS** - Philippines Inventory of Chemicals and Chemical Substances

**ENCS** - Japan Existing and New Chemical Substances

**IECSC** - China Inventory of Existing Chemical Substances

**AICS** - Australian Inventory of Chemical Substances

**KECL** - Korean Existing and Evaluated Chemical Substances

#### 15.2. Chemical safety assessment

No information available

### SECTION 16: Other information

#### Full text of R-phrases referred to under sections 2 and 3

No information available

#### Full text of any hazard and/or precautionary statements referred to under Sections 2-15

EUH071 - Corrosive to the respiratory tract

H272 - May intensify fire; oxidizer

H314 - Causes severe skin burns and eye damage

H331 - Toxic if inhaled

H411 - Toxic to aquatic life with long lasting effects

**Revision date** 14-May-2026

**Reason for Revision** Not applicable.

This material safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006

#### **Disclaimer**

The information provided in this Safety Data Sheet 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 guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered 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 materials or in any process, unless specified in the text.

End of Safety Data Sheet