

# SAFETY DATA SHEET

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

### 1.1. Product identifier

Product Name MSHO-100PPM

Product Description 100 µg/mL: Ho

### 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

H318 - Causes serious eye damage

EUH071 - Corrosive to the respiratory tract

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

P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing

P310 - Immediately call a POISON CENTER or doctor/physician

P234 - Keep only in original container

**2.3. Other hazards**

Other hazards

Toxic to aquatic life

No information available

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

| 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 | 3.5      | (EUH071)<br>Skin Corr. 1A (H314)<br>Ox. Liq. 3 (H272)<br>Acute Tox. 3 (H331) | 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****General Advice**

Immediate medical attention is required. Show this safety data sheet to the doctor in attendance.

**Inhalation**

Call a physician or poison control center immediately. Remove to fresh air. If breathing is difficult, give oxygen. If breathing is irregular or stopped, administer artificial respiration. Avoid direct contact with skin. Use barrier to give mouth-to-mouth resuscitation.

**Skin Contact**

Immediate medical attention is required. Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes.

**Eye Contact**

Immediate medical attention is required. 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.

**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.

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

**Most Important Symptoms and Effects** Burn. Difficulty in breathing.

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

**Notes to Physician** Product is a corrosive material. Use of gastric lavage or emesis is contraindicated. Possible perforation of stomach or esophagus should be investigated. Do not give chemical antidotes. Asphyxia from glottal edema may occur. Marked decrease in blood pressure may occur with moist rales, frothy sputum, and high pulse pressure

## **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**

Wear self-contained breathing apparatus and protective suit. Use personal protection equipment.

## **SECTION 6: Accidental release measures**

**6.1. 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.

**Advice for emergency responders**

Ensure adequate ventilation.

**6.2. Environmental precautions**

Prevent further leakage or spillage if safe to do so. Do not flush into surface water or sanitary sewer system. Prevent product from entering drains. 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. 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.

**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;             |                                                                                                                |                                  |
| 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;                                                                               |                                  |
| 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; |

**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****Eye/Face Protection**

Wear safety glasses with side shields (or goggles).

**Hand Protection**

Impervious gloves.

**Skin and Body Protection**

Impervious clothing. Boots. Chemical resistant apron.

**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.

**Environmental Exposure Controls** Prevent product from entering drains.

## 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>Literary reference</b>                      |                          |
| <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>Literary reference</b>                      |                          |
| <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**

The product causes burns of eyes, skin and mucous membranes.

**Inhalation**

Causes burns. Corrosive to respiratory system. Inhaled corrosive substances can lead to a toxic edema of the lungs. Contact with moist mucous membranes of the respiratory system can cause caustic condition resulting in burns. Aspiration may cause pulmonary edema and pneumonitis.

**Eye Contact**

Causes burns.

**Skin Contact**

Causes burns.

**Ingestion**

Can burn mouth, throat, and stomach.

The following ATE values have been calculated for the mixture

**ATE<sub>mix</sub> (inhalation-dust/mist)** 14.30 mg/l**ATE<sub>mix</sub> (inhalation-vapor)** 75.70 mg/l**Unknown acute toxicity**

3.5 % of the mixture consists of ingredient(s) of unknown acute toxicity.

3.5 % of the mixture consists of ingredient(s) of unknown acute oral toxicity.

3.5 % of the mixture consists of ingredient(s) of unknown acute dermal toxicity.

3.5 % 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.

**Target organ effects**

Skin, Eyes, Respiratory system.

**Aspiration hazard**

No information available.

## SECTION 12: Ecological information

### 12.1. Toxicity

Contains -1E-05 % of components with unknown hazards to the aquatic environment

### 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            |

### 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 Transport | No information available                   |

to Annex II of MARPOL 73/78 and  
the IBC Code

**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 |
| AIIC  | 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

|               |             |
|---------------|-------------|
| Revision date | 01-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