MATERIAL SAFETY DATA SHEET

SECTION 1 PRODUCT AND COMPANY IDENTIFICATION

A. L. M. T. Corp.

1-11-11, Shiba, Minato ku, Tokyo, 105-0014 JAPAN

TEL: +81-3-5418-1805 FAX: +81-3-5418-1811

TRADE NAME: Tungsten wire, Tungsten rod, Tungsten sheet

SECTION 2 HAZARDS IDENTIFICATION

Dust, mist and fumes generated during mechanical working may cause irritation of nose, throat, and eyes.

SECTION 3 COMPOSITION/INFORMATION ON INGREDIENTS

COMPONENT : Tungsten

CAS NUMBER: 7 4 4 0 - 3 3 - 7 PERCENTAGE: 99.95 wt%-100 wt%

SECTION 4 FIRST AID MEASURES

INHALATION: Remove from exposure area to fresh air immediately.

Get medical attention if breathing is difficult.

SKIN CONTACT: Wash with large amounts of water and mild soap.

EYE CONTACT: Wash eyes immediately with large amounts of water.

Get medical attention immediately.

INGESTION: Get medical attention immediately.

SECTION 5 FIRE FIGHTING MEASURES

Not considered to be a fire hazard since the bulk solid dose not burn.

EXTINGUISHING MEDIA: Dry chemical, water spray, carbonic acid gas.

Special fire fighting procedures: For dry chemical to a small area, use respirator approved for toxic dusts and fumes, for large fire, firefighters should use self-contained breathing apparatus.

SECTION 6 ACCIDENTAL RELEASE MEASURES

Shut off ignition sources. For small spills, place material into clean dry container. Clean up using wet dust mop or wet clean up.

SECTION 7 HANDLING AND STORAGE

Keep away from heat, sparks ,and open flame, incompatible materials. Keep on cold and dry place.

SECTION 8 EXPOSURE CONTROLS/PERSONAL PROTECTION

USA (ACG1H): TWA 5mg/m^3 (STEL)(15min.) 10mg/m^3

VENTILATION

Provide local exhaust ventilation to meet published exposure limits.

EYE PROTECTION

Wear safety goggles to prevent eye contact with this substance during grinding or cutting.

PROTECTIVE CLOTHING

Protective clothing not required, but recommended.

PROTECTIVE GLOVES

Protective gloves not required but recommended.

RESPIRATOR

Protective an appropriate respirator required during grinding or cutting.

SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

Description: Solid

Odor: None

Color: Silver-gray or metallic luster

Melting Point: 3410°C±10°C

Vapor Pressure: 1.33×10^{-6} Pa $(2,067^{\circ}\text{C})$

Boiling Point:5900℃

Specific Gravity: 17.5-19.3 Solubility in Water: Insoluble

pH: Not applicable

Viscosity: Not applicable

SECTION 1 O STABILITY AND REACTIVITY

Reactivity: Stable under normal temperatures and pressure.

Oxidized above 400°C, WO3 oxide is formed at 700°C.

Condition to avoid: Keep away from heat, sparks ,and open flame, incompatible materials.

SECTION 1 1 TOXICOLOGICAL INFORMATION

INHALATION

Acute Exposure: Inharation of dust may cause irritation

Chronic Exposure: No data available

SKIN CONTACT

Acute Exposure: No data available Chronic Exposure: No data available

EYE CONTACT

Acute Exposure: May cause irritation Chronic Exposure: No data available

INGESTION

Acute Exposure: No data available

Chronic Exposure: May cause lack of appetite and diarrhea.

Acute toxicity: LD₅₀ intraperitoneally rat 5 mg/kg Irritation on the skin rabbit: 500mg/24 hours (mild) Irritation on the eye rabbit: 500mg/24 hours (mild)

SECTION 1 2 ECOLOGICAL INFORMATION

Environmental impact rating: No data available

Acute aquatic toxicity: No data available

SECTION 1 3 DISPOSAL CONSIDERATIONS

Observe all your country's law and local regulations when disposing of this substance. May be sold as scrap for reclaim.

SECTION 1 4 TRANSPORT INFORMATION

UN Classification/UN No.: Not applicable

SECTION 1 5 REGULATORY INFORMATION

Observe all your country's law and local regulations.

SECTION 16 OTHER INFORMATION

CREATION DATE:21/Oct. /2003 REVISION DATE:20/Dec. /2007

Health and safety precaution in this data sheet may not be adequate for all individuals and/or situations. It is the user's obligation to evaluate and use this product safely and to comply with all applicable laws and regulation.

No warranty is made, either express or implied.