

MATERIAL SAFETY DATA SHEET

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IDENTIFICATION

CHEMICAL NAME: Tungsten (VI) ethoxide, 5g/100ml, in ethanol

CATALOG NUMBER: T902

FORMULA: $W(OC_2H_5)_6$

FORMULA WEIGHT: 454.26

TSCA: not listed on TSCA inventory

CHEMICAL FAMILY: Metal alkoxide solution

HAZARDOUS INGREDIENTS

HAZARDOUS INGREDIENTS: %

Title compound

5

ACGIH(TLV): No data

OSHA/PEL: No data

Ethanol

95

ACGIH(TLV): 1000ppm

OSHA/PEL: 1000ppm

PHYSICAL DATA

APPEARANCE AND ODOR: Green liquid, ethanol odor

FREEZING/MELTING POINT: -173°F(-114°C)(ethanol)

BOILING POINT: 173°F(78°C) (ethanol)

VAPOR PRESSURE: 44.6mmHg@68°F(20°C) (ethanol)

VAPOR DENSITY(AIR=1): 1.59(ethanol)

SPECIFIC GRAVITY (H₂O=1): 0.78-0.85@60°F(16°C) (ethanol)

SOLUBILITY IN WATER: Reacts with moisture

FIRE HAZARD

FLASH POINT: 55F(13°C)(ethanol)

AUTOIGNITION TEMPERATURE: 685°F(363°C) (ethanol)

FLAMMABLE LIMITS IN AIR BY VOLUME: Lower: 3.3(ethanol)

Upper: 19(ethanol)

EXTINGUISHING MEDIA: Use dry chemical, "alcohol resistant" foam, or carbon dioxide. Water may be ineffective, but water applied as a spray can absorb some of the fire's heat and should be used to keep fire-exposed containers cool.

SPECIAL FIRE FIGHTING PROCEDURES: As in any fire, wear a self-contained breathing apparatus in pressure demand, MSHA/NIOSH (approved or equivalent), and full protective gear. Vapor can travel to a source of ignition and flash back. Use water spray to keep fire-exposed containers cool. Containers may explode in the heat of a fire. This chemical poses an explosion hazard.

HEALTH HAZARD

MODE OF ENTRY:

INHALATION: Yes

SKIN CONTACT: Yes

EYE CONTACT: Yes

INGESTION: Yes

CARCINOGENICITY:

NTP: Not known

IARC: Not known

OSHA: Not known

EFFECTS OF OVEREXPOSURE:

No specific information on toxicity or effects of overexposure. If the material is burning, tungsten compounds may result. Tungsten compounds are considered somewhat more toxic than those of molybdenum. However, industrially, this element does not constitute an important health hazard. Exposure to high concentrations of ethanol (a decomposition product) results in irritation of the eyes and mucous membranes of the upper respiratory tract. After one hour, stupor and drowsiness may result. Large doses (5,000-10,000 ppm) can cause alcohol poisoning. Ethanol is a central nervous system depressant. Over 1,000 ppm may cause headache, irritation of eyes, nose, and throat and if long continued, drowsiness and lassitude, loss of appetite and inability to concentrate.

EMERGENCY AND FIRST AID PROCEDURES:

INHALATION: Remove the victim to fresh air and seek medical attention if coughing, shortness of breath or irritation persists.

SKIN CONTACT: Wash the affected area with ethanol first, then soap and water for at least 5 minutes.

EYE CONTACT: Immediately flush eyes, including under eyelids, with large amounts of water for at least 15 minutes. Call a physician.

INGESTION: Give the victim plenty of water and seek immediate medical attention.

-----REACTIVITY DATA-----

STABILITY: Moisture-sensitive material.

CONDITIONS TO AVOID: Moisture. Ignition source.

INCOMPATIBILITY: Moisture. Ethanol is dangerous when exposed to heat or flame. It can react vigorously with acetyl chloride, (Ag₂O+NH₄OH), BrF₅, Ca(OCl)₂, ClO₃, CrO₃, Cr(OCl)₂, (cyanuric acid+H₂O), H₂O₂, HNO₃, (H₂O₂+H₂SO₄), (I+CH₃OH+HgO), [Mn(ClO₄)₂+2,2-dimethoxy propane], (H₂SO₄+permanganates), HMnO₄, KO₂, KOC(CH₃)₃, (Ag+HNO₃), AgNO₃, AgClO₄, NaH₃N₂, UO₂(ClO₄)₂.

HAZARDOUS DECOMPOSITION PRODUCTS: CO, CO₂, organic fumes, and tungsten oxides.

HAZARDOUS POLYMERIZATION: None

-----ENVIRONMENTAL INFORMATION-----

SPILL OR LEAKAGE PROCEDURES: Wearing full protective equipment, eliminate all sources of ignition. Cover spill with dry sand or vermiculite. Sweep up the mixture and dispose of properly.

WASTE DISPOSAL: Consult state, local, or federal EPA regulations for proper disposal.

-----PROTECTION AND PRECAUTIONS-----

VENTILATION REQUIREMENTS: Glove bag or box with dry, inert atmosphere.

RESPIRATORY PROTECTION: NIOSH/MSHA approved respirator with an organic vapor cartridge.

PROTECTIVE GLOVES: Rubber

EYE/FACE PROTECTION: ANSI approved safety goggles

HANDLING AND STORAGE: Handle and store the material under an inert atmosphere of nitrogen or argon. Keep away from heat.

OTHER PRECAUTIONS: The material will react with moisture. Lab coat and apron, flame and chemical resistant coveralls, eyewash capable of sustained flushing, safety drench shower and hygienic facilities for washing.

The information herein is believed to be accurate and reliable as of the date compiled. However, Chemat Technology Inc. makes no representation, warranty or guarantee of any kind with respect to the information on this data sheet or any use of the product based upon this information.

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