

Safety Data Sheet

according to 1907/2006/EC, Article 31

Printing date 13.07.2010

Revision: 13.07.2010

1 Identification of substance

Product details

Trade name

Tungsten(V) dichloride triethoxide, 10% w/v in ethanol

Stock number:

39171

Manufacturer/Supplier:

Alfa Aesar GmbH & Co.KG
Benzstrasse 3
D-76185 Karlsruhe / GermanyE-mail: gcat@matthey.com
www.alfa-chemcat.com

Informing department:

Product safety department.

Emergency information:

Giftnotruf Universität Mainz / Poison Information Center Mainz
www.giftnotruf.uni-mainz.de Telefon: +49(0)6131/19240

2 Hazards identification

Hazard designation:

C Corrosive
F Highly flammable

Information pertaining to particular dangers for man and environment

R 11 Highly flammable.
R 34 Causes burns.

GHS label elements

**Danger**

H225 - Highly flammable liquid and vapour.

**Danger**

Prevention:

H314 - Causes severe skin burns and eye damage.

Response:

P210 Keep away from heat/sparks/open flames/hot surfaces. - No smoking.

P280 Wear protective gloves/protective clothing/eye protection/face protection.

P303+P361+P353 IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.

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.

3 Composition/information on ingredients

Chemical characterization:

Designation: (CAS#)

Tungsten(V) dichloride triethoxide (CAS# 45000-93-9): 10%
Ethanol (CAS# 64-17-5): 90%

4 First aid measures

General information

After inhalation

Instantly remove any clothing soiled by the product.

Supply fresh air. If required, provide artificial respiration. Keep patient warm. Consult doctor if symptoms persist.

After skin contact

Seek immediate medical advice.

Instantly wash with water and soap and rinse thoroughly.

Seek immediate medical advice.

After eye contact

Rinse opened eye for several minutes under running water. Then consult doctor.

After swallowing

Seek immediate medical advice.

5 Fire fighting measures

Suitable extinguishing agents

CO₂, sand, extinguishing powder. Do not use water.

For safety reasons unsuitable extinguishing agents

Water.

Special hazards caused by the material, its products of combustion or flue gases:

Can be released in case of fire:

Carbon monoxide and carbon dioxide

Hydrogen chloride (HCl)

Metal oxide

Protective equipment:

Wear self-contained breathing apparatus.

Wear full protective suit.

6 Accidental release measures

Person-related safety precautions:

Wear protective equipment. Keep unprotected persons away.

Measures for environmental protection:

Ensure adequate ventilation

Keep away from ignition sources

Do not allow material to be released to the environment without proper governmental permits.

Measures for cleaning/collecting:

Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).

Use neutralizing agent.

Dispose of contaminated material as waste according to item 13.

Ensure adequate ventilation.

Keep away from ignition sources.

Additional information:

See Section 7 for information on safe handling

See section 8 for information on personal protection equipment.

See Section 13 for information on disposal.

7 Handling and storage

Handling

Information for safe handling:

Handle under dry protective gas.

Keep containers tightly sealed.

Store in cool, dry place in tightly closed containers.

Ensure good ventilation/exhaustion at the workplace.

Information about protection against explosions and fires:

Keep ignition sources away - Do not smoke.

Protect against electrostatic charges.

Fumes can combine with air to form an explosive mixture.

Storage

Requirements to be met by storerooms and containers:

Store in cool location.

Information about storage in one common storage facility:

Store away from oxidizing agents.

Store away from water.

Store away from strong bases.

Further information about storage conditions:

Store under dry inert gas.

This product is moisture sensitive.

Keep container tightly sealed.

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Store in cool, dry conditions in well sealed containers.
Protect from humidity and keep away from water.
Store in a locked cabinet or with access restricted to technical experts or their assistants.

8 Exposure controls and personal protection

Additional information about design of technical systems:

Properly operating chemical fume hood designed for hazardous chemicals and having an average face velocity of at least 100 feet per minute.

Components with critical values that require monitoring at the workplace:

Ethyl alcohol
ppm
ACGIH TLV 1000-STEL; Confirmed animal carcinogen with unknown relevance to humans.
Austria MAK 1000
Belgium TWA 1000
Denmark TWA 1000
Finland TWA 1000; 1250-STEL
France VME 1000; 5000-VLE
Germany MAK 1000
Hungary TWA 1000; 3000-STEL
Korea TLV 1000; Not classifiable as a human carcinogen
Netherlands MAC-TGG 500
Norway TWA 500
Poland TWA 1000 mg/m3; 300 mg/m3-STEL
Russia 1000 mg/m3-STEL
Sweden NGV 500; 1000-KTV
Switzerland MAK-W 1000
United Kingdom TWA 1000
OSHA PEL 1000

Tungsten and compounds (as W)
mg/m3
ACGIH TLV 1: 3-STEL (soluble compounds)
5; 10-STEL (insoluble compounds)
Belgium TWA 5; 10-STEL
Denmark TWA 5
Finland TWA 5
Korea TLV 5; 10-STEL
Netherlands MAC-TGG 5
Norway TWA 5
Poland TWA 5
Russia 2-STEL
Sweden NGV 5
Switzerland MAK-W 5
United Kingdom TWA 5; 10-STEL
No data

Additional information:

Personal protective equipment

General protective and hygienic measures

The usual precautionary measures should be adhered to in handling the chemicals.
Keep away from foodstuffs, beverages and food.
Instantly remove any soiled and impregnated garments.
Wash hands during breaks and at the end of the work.
Avoid contact with the eyes and skin.
Use breathing protection with high concentrations.
Face protection
Tightly sealed safety glasses.
Full face protection
Protective work clothing.

Breathing equipment:

Eye protection:

Body protection:

9 Physical and chemical properties:

General Information

Form: Liquid
Colour: Purple
Smell: Alcohol-like

Change in condition

Melting point/Melting range: Not determined
Boiling point/Boiling range: Not determined
Sublimation temperature / start: Not determined

Flash point: 8°C (ethanol)

Ignition temperature: 422°C (ethanol)

Decomposition temperature: Not determined

Critical values for explosion:

Lower: 3.3 Vol % (ethanol)
Upper: 19 Vol % (ethanol)

Steam pressure: Not determined

Density: Not determined

Solubility in / Miscibility with

Water: Reacts

10 Stability and reactivity

Thermal decomposition / conditions to be avoided:

Materials to be avoided:

No decomposition if used and stored according to specifications.
Water/moisture
Oxidizing agents
Acids
Bases
No dangerous reactions known
Carbon monoxide and carbon dioxide
Metal oxide
Hydrogen chloride (HCl)

Dangerous reactions:

Dangerous products of decomposition:

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11 Toxicological information

Acute toxicity:
Primary irritant effect:
on the skin:
on the eye:
Sensitization:

Additional toxicological information:

Corrosive effect on skin and mucous membranes.
 Strong corrosive effect.
 No sensitizing effect known.
 Swallowing will lead to a strong caustic effect on mouth and throat and to the danger of perforation of esophagus and stomach.
 To the best of our knowledge the acute and chronic toxicity of this substance is not fully known.
 ACGIH A4: Not classifiable as a human carcinogen: Inadequate data on which to classify the agent in terms of its carcinogenicity in humans and/or animals.

12 Ecological information:

Additional ecological information:
General notes:

Water hazard class 1 (Self-assessment): slightly hazardous for water.
 Do not allow undiluted product or large quantities of it to reach ground water, water bodies or sewage system.
 Do not allow material to be released to the environment without proper governmental permits.

13 Disposal considerations

Product:
Recommendation

Hand over to disposers of hazardous waste.
 Must be specially treated under adherence to official regulations.
 Consult state, local or national regulations for proper disposal.

Uncleaned packagings:
Recommendation:

Disposal must be made according to official regulations.

14 Transport information**Land transport ADR/RID and GGVS/GGVE (cross-border/domestic)**

ADR/RID-GGVS/E Class: 3 (FC) Flammable liquids.
Kemler Number: 338
UN-Number: 2924
Packaging group: II
Label: 3+8
Designation of goods: 2924 FLAMMABLE LIQUID, CORROSIVE, N.O.S. (Tungsten(V) dichloride triethoxide/Ethanol solution)
Limited quantities (LQ): LQ4
Transport category: 2
Tunnel restriction code: D/E

Maritime transport IMDG/GGVSea:

IMDG/GGVSea Class: 3
UN Number: 2924
Label: 3+8
Packaging group: II
EMS Number: F-E, S-C
Marine pollutant: No
Correct technical name: FLAMMABLE LIQUID, CORROSIVE, N.O.S. (Tungsten(V) dichloride triethoxide/Ethanol solution)

Air transport ICAO-TI and IATA-DGR:

ICAO/IATA Class: 3
UN/ID Number: 2924
Label: 3+8
Packaging group: II
Correct technical name: FLAMMABLE LIQUID, CORROSIVE, N.O.S. (Tungsten(V) dichloride triethoxide/Ethanol solution)

UN "Model Regulation":

UN2924, FLAMMABLE LIQUID, CORROSIVE, N.O.S., 3 (8), II

15 Regulatory information**Designation according to EC guidelines:**

Code letter and hazard designation of product:



C Corrosive
 F Highly flammable

Risk phrases:

11 Highly flammable.
 34 Causes burns.

Safety phrases:

16 Keep away from sources of ignition - No smoking.
 26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
 36/37/39 Wear suitable protective clothing, gloves and eye/face protection.
 45 In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

National regulations**Information about limitation of use:**

For use only by technically qualified individuals.
 Employment restrictions concerning young persons must be observed.

Water hazard class:

Water hazard class 1 (Self-assessment): slightly hazardous for water.

16 Other information:

Employers should use this information only as a supplement to other information gathered by them, and should make independent judgement of suitability of this information to ensure proper use and protect the health and safety of employees. This information is furnished without warranty, and any use of the product not in conformance with this Material Safety Data Sheet, or in combination with any other product or process, is the responsibility of the user.

Department issuing data specification sheet: Health, Safety and Environmental Department.**Contact:** Zachariah Holt

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Trade name *Tungsten(V) dichloride triethoxide, 10% w/v in ethanol***Abbreviations and acronyms:**

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ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)
IMDG: International Maritime Code for Dangerous Goods
IATA: International Air Transport Association
IATA-DGR: Dangerous Goods Regulations by the "International Air Transport Association" (IATA)
ICAO: International Civil Aviation Organization
ICAO-TI: Technical Instructions by the "International Civil Aviation Organization" (ICAO)
GHS: Globally Harmonized System of Classification and Labelling of Chemicals
CAS: Chemical Abstracts Service (division of the American Chemical Society)

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