



Safety Data Sheet
acc. to OSHA HCS

Printing date 03/13/2017

Reviewed on 03/13/2017

1 Identification

- **Product identifier**
- **Trade name:** Tetracycline hydrochloride
- **Article number:** A1004-5 & A1004-25
- **CAS Number:**
64-17-5
- **Index number:**
603-002-00-5
- **Application of the substance / the mixture** Laboratory Reagent
- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**
Zymo Research Corp.
17062 Murphy Ave.
Irvine, CA 92614
USA
Phone: 1-949-679-1190 or 1-888-882-9682
sds@zymoresearch.com
- **Information department:** Product safety department
- **Emergency telephone number:**
During normal business hours (8 am to 5 pm Pacific Standard Time): +1 (949) 679 1190

2 Hazard(s) identification

- **Classification of the substance or mixture**



GHS02 Flame

Flam. Liq. 2 H225 Highly flammable liquid and vapor.



GHS08 Health hazard

Repr. 2 H361 Suspected of damaging fertility or the unborn child.



GHS07

Eye Irrit. 2A H319 Causes serious eye irritation.

- **Label elements**

- **GHS label elements** The substance is classified and labeled according to the Globally Harmonized System (GHS).
- **Hazard pictograms** GHS02, GHS07, GHS08
- **Signal word** Danger
- **Hazard-determining components of labeling:**
chloramphenicol
ethanol

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· Hazard statements

- Highly flammable liquid and vapor.
- Causes serious eye irritation.
- Suspected of damaging fertility or the unborn child.

· Precautionary statements

- Keep away from heat/sparks/open flames/hot surfaces. No smoking.
- Use explosion-proof electrical/ventilating/lighting/equipment.
- Wear protective gloves/protective clothing/eye protection/face protection.
- Ground/bond container and receiving equipment.
- Keep container tightly closed.
- Use only non-sparking tools.
- Take precautionary measures against static discharge.
- Wash thoroughly after handling.
- Obtain special instructions before use.
- Do not handle until all safety precautions have been read and understood.
- If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
- If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
- IF exposed or concerned: Get medical advice/attention.
- If eye irritation persists: Get medical advice/attention.
- In case of fire: Use for extinction: CO2, powder or water spray.
- Store in a well-ventilated place. Keep cool.
- Store locked up.
- Dispose of contents/container in accordance with local/regional/national/international regulations.

· Classification system:

· NFPA ratings (scale 0 - 4)



· HMIS-ratings (scale 0 - 4)



· Other hazards

· Results of PBT and vPvB assessment

- **PBT:** Not applicable.
- **vPvB:** Not applicable.

3 Composition/information on ingredients

· Chemical characterization: Substances

- **CAS No. Description**
64-17-5 ethanol

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- Identification number(s)
Index number: 603-002-00-5

Dangerous components:

Table with 2 columns: CAS number and component name, and 2 columns: component name and percentage.

4 First-aid measures

- Description of first aid measures
After inhalation: Supply fresh air; consult doctor in case of complaints.
After skin contact: Generally the product does not irritate the skin.
After eye contact: Rinse opened eye for several minutes under running water. Then consult a doctor.
After swallowing: Do not induce vomiting; immediately call for medical help.
Information for doctor:
Most important symptoms and effects, both acute and delayed No further relevant information available.
Indication of any immediate medical attention and special treatment needed
No further relevant information available.

5 Fire-fighting measures

- Extinguishing media
Suitable extinguishing agents: CO2, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
Advice for firefighters
Protective equipment: Wear protective clothing.

6 Accidental release measures

- Personal precautions, protective equipment and emergency procedures
Wear protective equipment. Keep unprotected persons away.
Environmental precautions:
Dilute with plenty of water.
Do not allow to enter sewers/ surface or ground water.
Methods and material for containment and cleaning up:
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
Ensure adequate ventilation.
Reference to other sections
See Section 7 for information on safe handling.
See Section 8 for information on personal protection equipment.
See Section 13 for disposal information.
Protective Action Criteria for Chemicals

PAC-1:

Table with 2 columns: CAS number and component name, and 2 columns: component name and percentage.

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Table with 3 columns: CAS number, chemical name, and concentration. Rows include tetracycline hydrochloride (19 mg/m3), ethanol (3300* ppm), and tetracycline hydrochloride (210 mg/m3) under PAC-2 and PAC-3 sections.

7 Handling and storage

- Handling:
Precautions for safe handling: No special precautions are necessary if used correctly. Avoid breathing dust, vapor, mist or gas.
Information about protection against explosions and fires: Keep ignition sources away - Do not smoke.
Conditions for safe storage, including any incompatibilities
Storage:
Requirements to be met by storerooms and receptacles: Store in a cool location.
Information about storage in one common storage facility: Not required.
Further information about storage conditions: Keep receptacle tightly sealed.
Specific end use(s) Laboratory reagent

8 Exposure controls/personal protection

- Additional information about design of technical systems: No further data; see item 7.
Control parameters
Components with limit values that require monitoring at the workplace: The following constituent is the only constituent of the product which has a PEL, TLV or other recommended exposure limit.
At this time, the remaining constituent has no known exposure limits.

CAS: 64-17-5 ethanol

Table with 2 columns: Exposure Limit (PEL, REL, TLV) and Value (Long-term value: 1900 mg/m3, 1000 ppm; Short-term value: 1880 mg/m3, 1000 ppm).

- Additional information: The lists that were valid during the creation were used as basis.

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- Exposure controls
Personal protective equipment:
General protective and hygienic measures: Wash hands before breaks and at the end of work.
Breathing equipment: Not required.
Protection of hands:
Material of gloves
Penetration time of glove material
Eye protection:



Tightly sealed goggles

9 Physical and chemical properties

Table with 2 columns: Property and Value. Rows include: Information on basic physical and chemical properties, General Information, Appearance (Form: Liquid, Color: Clear, Odor: No information available, Odor threshold: Not determined), pH-value: Not determined, Change in condition (Melting point/Melting range: -114.5 °C (-174 °F), Boiling point/Boiling range: 78 °C (172 °F)), Flash point: 13 °C (55 °F), Flammability (solid, gaseous): Not applicable, Ignition temperature: 425 °C (797 °F), Decomposition temperature: Not determined, Auto igniting: Not determined, Danger of explosion: Product is not explosive. However, formation of explosive air/vapor mixtures are possible.

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Table with 2 columns: Property and Value. Rows include: Explosion limits (Lower: 3.5 Vol %, Upper: 15 Vol %), Vapor pressure at 20 °C (68 °F): 59 hPa (44 mm Hg), Density at 20 °C (68 °F): 0.79 g/cm³ (6.593 lbs/gal), Relative density: Not determined, Vapor density: Not determined, Evaporation rate: Not determined, Solubility in / Miscibility with Water at 20 °C (68 °F): 1.000 g/l, Partition coefficient (n-octanol/water): Not determined, Viscosity (Dynamic at 20 °C (68 °F): 1.2 mPas, Kinematic: Not determined, Organic solvents: 99.0 %, VOC content: 99.0 %, 990.0 g/l / 8.26 lb/gl), Solids content: 1.0 %, Other information: No further relevant information available.

10 Stability and reactivity

- Reactivity: No further relevant information available.
Chemical stability: This product is normally stable under anticipated circumstances of use and storage.
Thermal decomposition / conditions to be avoided: No decomposition if used according to specifications.
Possibility of hazardous reactions: No dangerous reactions known.
Conditions to avoid: No further relevant information available.
Incompatible materials: Strong oxidizing agents (acids).
Hazardous decomposition products: No dangerous decomposition products known.

11 Toxicological information

- Information on toxicological effects
Acute toxicity:

Table with 2 columns: Route and Value. Row 1: LD/LC50 values that are relevant for classification. Row 2: CAS: 64-17-5 ethanol. Row 3: Oral LD50 7060 mg/kg (rat). Row 4: Inhalative LC50/4 h 20000 mg/l (rat).

- Primary irritant effect:
on the skin: No irritant effect.
on the eye: No irritating effect.

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- Sensitization: No sensitizing effects known.
· Additional toxicological information:
· Carcinogenic categories

· IARC (International Agency for Research on Cancer)

Substance is not listed.

· NTP (National Toxicology Program)

Substance is not listed.

· OSHA-Ca (Occupational Safety & Health Administration)

Substance is not listed.

12 Ecological information

- Toxicity
· Aquatic toxicity: No further relevant information available.
· Persistence and degradability No further relevant information available.
· Behavior in environmental systems:
· Bioaccumulative potential No further relevant information available.
· Mobility in soil No further relevant information available.
· Additional ecological information:
· General notes:
Water hazard class 1 (Assessment by list): slightly hazardous for water
Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.
· Results of PBT and vPvB assessment
· PBT: Not applicable.
· vPvB: Not applicable.
· Other adverse effects No further relevant information available.

13 Disposal considerations

- Waste treatment methods
· Recommendation:
Dispose of contents in accordance with local/regional/national, and international recommendations.
· Uncleaned packagings:
· Recommendation:
Dispose of container in accordance with local/regional/national and international recommendations.
· Recommended cleansing agent: Water, if necessary with cleansing agents.

14 Transport information

- UN-Number
· DOT, IMDG, IATA UN1993

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UN proper shipping name: Flammable liquids, n.o.s. (Ethanol)
DOT: FLAMMABLE LIQUID, N.O.S. (ETHANOL (ETHYL ALCOHOL))
IMDG: FLAMMABLE LIQUID, N.O.S. (ETHANOL)
IATA: FLAMMABLE LIQUID, N.O.S. (ETHANOL)

Transport hazard class(es)

DOT



Class: 3 Flammable liquids
Label: 3

IMDG, IATA



Class: 3 Flammable liquids
Label: 3

Packing group: II
DOT, IMDG, IATA: II

Environmental hazards: Not applicable.

Special precautions for user: Warning: Flammable liquids
Danger code (Kemler): 33
EMS Number: F-E,S-E
Stowage Category: B

Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code: Not applicable.

Transport/Additional information:

DOT

Quantity limitations: On passenger aircraft/rail: 5 L
On cargo aircraft only: 60 L

IMDG

Limited quantities (LQ): 1L
Excepted quantities (EQ): Code: E2
Maximum net quantity per inner packaging: 30 ml
Maximum net quantity per outer packaging: 500 ml

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UN "Model Regulation": UN 1993 FLAMMABLE LIQUIDS, N.O.S. (ETHANOL), 3, II

15 Regulatory information

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

Sara

Section 355 (extremely hazardous substances):

Substance is not listed.

Section 313 (Specific toxic chemical listings):

CAS: 64-75-5 tetracycline hydrochloride

TSCA (Toxic Substances Control Act):

Substance is listed.

Proposition 65

Chemicals known to cause cancer:

Substance is not listed.

Chemicals known to cause reproductive toxicity for females:

Substance is not listed.

Chemicals known to cause reproductive toxicity for males:

Substance is not listed.

Chemicals known to cause developmental toxicity:

CAS: 64-75-5 tetracycline hydrochloride

Carcinogenic categories

EPA (Environmental Protection Agency)

Substance is not listed.

TLV (Threshold Limit Value established by ACGIH)

A3

NIOSH-Ca (National Institute for Occupational Safety and Health)

Substance is not listed.

GHS label elements The substance is classified and labeled according to the Globally Harmonized System (GHS).

Hazard pictograms GHS02, GHS07, GHS08

Signal word Danger

Hazard-determining components of labeling:

chloramphenicol

ethanol

Hazard statements

Highly flammable liquid and vapor.

Causes serious eye irritation.

Suspected of damaging fertility or the unborn child.

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· Precautionary statements

- Keep away from heat/sparks/open flames/hot surfaces. No smoking.
 - Use explosion-proof electrical/ventilating/lighting/equipment.
 - Wear protective gloves/protective clothing/eye protection/face protection.
 - Ground/bond container and receiving equipment.
 - Keep container tightly closed.
 - Use only non-sparking tools.
 - Take precautionary measures against static discharge.
 - Wash thoroughly after handling.
 - Obtain special instructions before use.
 - Do not handle until all safety precautions have been read and understood.
 - If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
 - If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
 - IF exposed or concerned: Get medical advice/attention.
 - If eye irritation persists: Get medical advice/attention.
 - In case of fire: Use for extinction: CO₂, powder or water spray.
 - Store in a well-ventilated place. Keep cool.
 - Store locked up.
 - Dispose of contents/container in accordance with local/regional/national/international regulations.
- Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

16 Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

· Department issuing SDS:

Zymo Research Corp.
Safety Department
17062 Murphy Ave.
Irvine, CA 92614
USA
Phone: 1-949-679-1190 or 1-888-882-9682

· Contact: sds@zymoresearch.com**· Date of preparation / last revision** 03/13/2017 / -**· Abbreviations and acronyms:**

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
IMDG: International Maritime Code for Dangerous Goods
DOT: US Department of Transportation
IATA: International Air Transport Association
ACGIH: American Conference of Governmental Industrial Hygienists
EINECS: European Inventory of Existing Commercial Chemical Substances
ELINCS: European List of Notified Chemical Substances
CAS: Chemical Abstracts Service (division of the American Chemical Society)
NFPA: National Fire Protection Association (USA)
HMIS: Hazardous Materials Identification System (USA)
VOC: Volatile Organic Compounds (USA, EU)
LC50: Lethal concentration, 50 percent
LD50: Lethal dose, 50 percent

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ZYMO RESEARCH

The Beauty of Science is to Make Things Simple

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PBT: Persistent, Bioaccumulative and Toxic
vPvB: very Persistent and very Bioaccumulative
NIOSH: National Institute for Occupational Safety
OSHA: Occupational Safety & Health
TLV: Threshold Limit Value
PEL: Permissible Exposure Limit
REL: Recommended Exposure Limit
Flam. Liq. 2: Flammable liquids – Category 2
Eye Irrit. 2A: Serious eye damage/eye irritation – Category 2A
Repr. 2: Reproductive toxicity – Category 2

US