



Safety Data Sheet
acc. to OSHA HCS

Printing date 03/13/2017

Reviewed on 03/13/2017

1 Identification

- **Product identifier**
- **Trade name:** Chloramphenicol
- **Article number:** A1002-5 & A1002-25
- **CAS Number:**
64-17-5
- **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

Carc. 1B H350 May cause cancer.



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
- **Hazard statements**
Highly flammable liquid and vapor.

(Contd. on page 2)



Safety Data Sheet
acc. to OSHA HCS

Printing date 03/13/2017

Reviewed on 03/13/2017

Trade name: Chloramphenicol

(Contd. of page 1)

Causes serious eye irritation.
May cause cancer.

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)

Table with 3 rows: HEALTH 1, FIRE 3, REACTIVITY 0

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

Dangerous components:

Table with 2 columns: CAS: 56-75-7 chloramphenicol, <=2.5%

(Contd. on page 3)



Safety Data Sheet
acc. to OSHA HCS

Printing date 03/13/2017

Reviewed on 03/13/2017

Trade name: Chloramphenicol

CAS: 64-17-5 ethanol

(Contd. of page 2)

≤100%

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 chemical name, and 2 columns: concentration values (1,800 ppm and 1.5 mg/m3).

PAC-2:

Table with 2 columns: CAS number and chemical name, and 2 columns: concentration values (3300* ppm and 10 mg/m3).

(Contd. on page 4)



Safety Data Sheet acc. to OSHA HCS

Printing date 03/13/2017

Reviewed on 03/13/2017

Trade name: Chloramphenicol

(Contd. of page 3)

Table with 2 columns: CAS number, chemical name, and concentration. Rows include PAC-3, ethanol (15000* ppm), and chloramphenicol (500 mg/m3).

7 Handling and storage

- Handling; Precautions for safe handling; Information about protection against explosions and fires; Conditions for safe storage, including any incompatibilities; Storage; Requirements to be met by storerooms and receptacles; Information about storage in one common storage facility; Further information about storage conditions; Specific end use(s) Laboratory reagent

8 Exposure controls/personal protection

- Additional information about design of technical systems; Control parameters

Table with 2 columns: CAS number, chemical name, and exposure limits (PEL, REL, TLV, WEEL).

- Additional information; Exposure controls; Personal protective equipment; General protective and hygienic measures; Breathing equipment; Protection of hands

(Contd. on page 5)



Safety Data Sheet
acc. to OSHA HCS

Printing date 03/13/2017

Reviewed on 03/13/2017

Trade name: Chloramphenicol

(Contd. of page 4)

Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.

Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

Material of gloves

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer.

Penetration time of glove material

The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

Eye protection:



Tightly sealed goggles

9 Physical and chemical properties

Information on basic physical and chemical properties

General Information

Appearance:

Table with 2 columns: Property (Form, Color, Odor, Odor threshold) and Value (Liquid, Clear, No information available, Not determined).

pH-value: Not determined.

Change in condition

Table with 2 columns: Property (Melting point/Melting range, Boiling point/Boiling range) and Value (-114.5 °C (-174 °F), 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.

Explosion limits:

Table with 2 columns: Property (Lower, Upper) and Value (3.5 Vol %, 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)

(Contd. on page 6)



Safety Data Sheet
acc. to OSHA HCS

Printing date 03/13/2017

Reviewed on 03/13/2017

Trade name: Chloramphenicol

(Contd. of page 5)

- 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 %

Solids content: 1.0 %
Other information: No further relevant information available.

10 Stability and reactivity

- Reactivity: No further relevant information available.
Chemical stability
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: No further relevant information available.
Hazardous decomposition products: No dangerous decomposition products known.

11 Toxicological information

- Information on toxicological effects
Acute toxicity:

LD/LC50 values that are relevant for classification:

CAS: 64-17-5 ethanol

Table with 3 columns: Route, LD50, and Value. Rows: Oral (7060 mg/kg (rat)), Inhalative (20000 mg/l (rat))

- Primary irritant effect: on the skin, on the eye
Sensitization: No sensitizing effects known.
Additional toxicological information:

Carcinogenic categories

IARC (International Agency for Research on Cancer)

CAS: 56-75-7 chloramphenicol

2A

(Contd. on page 7)



Safety Data Sheet acc. to OSHA HCS

Printing date 03/13/2017

Reviewed on 03/13/2017

Trade name: Chloramphenicol

(Contd. of page 6)

NTP (National Toxicology Program)

CAS: 56-75-7 chloramphenicol

R

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 UN1170
UN proper shipping name
DOT Ethanol mixture
IMDG ETHANOL (ETHYL ALCOHOL) mixture
IATA ETHANOL mixture

(Contd. on page 8)



Safety Data Sheet
acc. to OSHA HCS

Printing date 03/13/2017

Reviewed on 03/13/2017

Trade name: Chloramphenicol

(Contd. of page 7)

· Transport hazard class(es)

· DOT



· Class 3 Flammable liquids
· Label 3

· IMDG, IATA



· Class 3 Flammable liquids
· Label 3

· Packing group

· DOT, IMDG, IATA II

· Environmental hazards: Not applicable.

· Special precautions for user Warning: Flammable liquids

· Danger code (Kemler): 33

· EMS Number: F-E,S-D

· Stowage Category A

· 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

· UN "Model Regulation": UN 1170 ETHANOL MIXTURE, 3, II

US

(Contd. on page 9)



Safety Data Sheet
acc. to OSHA HCS

Printing date 03/13/2017

Reviewed on 03/13/2017

Trade name: Chloramphenicol

(Contd. of page 8)

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):

Substance is not listed.

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:

Substance is not listed.

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.

May cause cancer.

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.

(Contd. on page 10)

**Safety Data Sheet**
acc. to OSHA HCS

Printing date 03/13/2017

Reviewed on 03/13/2017

Trade name: Chloramphenicol

(Contd. of page 9)

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

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

(Contd. on page 11)



ZYMO RESEARCH

The Beauty of Science is to Make Things Simple

Page 11/11

Safety Data Sheet
acc. to OSHA HCS

Printing date 03/13/2017

Reviewed on 03/13/2017

Trade name: Chloramphenicol

(Contd. of page 10)

REL: Recommended Exposure Limit
Flam. Liq. 2: Flammable liquids – Category 2
Eye Irrit. 2A: Serious eye damage/eye irritation – Category 2A
Carc. 1B: Carcinogenicity – Category 1B

US