SAFETY DATA SHEET

[Required under safety and health regulations for shipping and handling]

Version: 2022
Date Updated: February 04, 2022

SECTION 1. - - - - - - - - - CHEMICAL IDENTIFICATION- - - - - - - - - -

Product Name	Tetracycline Hydrochloride
Product Code(s)	TB0504
Recommended Use	For Further Manufacturing Use Only Not for Human or Animal Drug Use
Recommended Use	antibiotic/antimycotic for cell culture, blocks the binding of tRNA to the 30S subunit

SECTION 2. - - - - - - - - - - HAZARDS IDENTIFICATION - - - - - - - - -

GHS Classification in accordance with Hazardous Products Regulations (HPR) (SOR/2015-17)

Skin irritation (Category 2), H315
Eye irritation (Category 2A), H319
Reproductive toxicity (Category 2), H361
Specific target organ toxicity - single exposure (Category 3), Respiratory system, H335 Short-term (acute) aquatic hazard (Category 1), H400
Long-term (chronic) aquatic hazard (Category 2), H411

For the full text of the H-Statements mentioned in this Section, see Section 16.

GHS Label elements, including precautionary statements

Pictogram

Signal word: Warning

Hazard statement(s)

H315	Causes skin irritation.
H319	Causes serious eye irritation.
H335	May cause respiratory irritation.
H361	Suspected of damaging fertility or the unborn child.
H400	Very toxic to aquatic life.
H411	Toxic to aquatic life with long lasting effects.

Precautionary statement(s)

P201	Obtain special instructions before use.
P202	Do not handle until all safety precautions have been read and understood.
P261	Avoid breathing dust/ fume/ gas/ mist/ vapors/ spray.
P264	Wash skin thoroughly after handling.
P271	Use only outdoors or in a well-ventilated area.
P273	Avoid release to the environment.
P280	Wear protective gloves/ protective clothing/ eye protection/ face protection.
P302 + P352	IF ON SKIN: Wash with plenty of water.
P304 + P340 + P312	IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER/ doctor if you feel unwell.
P305 + P351 + P338	IF IN EYES: Rinse cautiously with water for several minutes.

	Remove contact lenses, if present and easy to do. Continue rinsing.
P308 + P313	IF exposed or concerned: Get medical advice/ attention.
P332 + P313	If skin irritation occurs: Get medical advice/ attention.
P337 + P313	If eye irritation persists: Get medical advice/ attention.
P362 + P364	Take off contaminated clothing and wash it before reuse.
P391	Collect spillage.
P403 + P233	Store in a well-ventilated place. Keep container tightly closed.
P405	Store locked up.
P501	Dispose of contents/ container to an approved waste disposal plant.

Hazards not otherwise classified (HNOC) or not covered by GHS

- none

SECTION 3. - - - - - COMPOSITION/INFORMATION ON INGREDIENTS - - - - - -

Chemical Name	EC No.	CAS-No	Weight %	
Tetracycline hydrochloride	200-593-8	64-75-5	95-100	

SECTION 4. - - - - - - - - - - FIRST-AID MEASURES- - - - - - - - - - -

General advice
Consult a physician. Show this safety data sheet to the doctor in attendance.Move out of dangerous area.

If inhaled
If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

In case of skin contact
Wash off with soap and plenty of water. Consult a physician.

In case of eye contact
Flush eyes with water as a precaution.

If swallowed
Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

SECTION 5. - - - - - - - - - FIRE FIGHTING MEASURES - - - - - - - - - -

Suitable extinguishing media
Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

Special protective equipment for firefighters
Wear self-contained breathing apparatus for firefighting if necessary.

Hazardous combustion products

Explosion data - sensitivity to mechanical impact
No data available

Explosion data - sensitivity to static discharge
No data available

SECTION 6. - - - - - - - - ACCIDENTAL RELEASE MEASURES- - - - - - - - -

Personal precautions
Use personal protective equipment. Avoid dust formation. Avoid breathing vapours, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas. Avoid breathing dust.

Environmental precautions
Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the

environment must be avoided.

Methods and materials for containment and cleaning up

Pick up and arrange disposal without creating dust. Sweep up and shovel. Keep in suitable, closed containers for disposal.

SECTION 7. - - - - - - - - - - HANDLING AND STORAGE- - - - - - - - - - -

Precautions for safe handling

Avoid contact with skin and eyes. Avoid formation of dust and aerosols.
Provide appropriate exhaust ventilation at places where dust is formed.

Conditions for safe storage

Keep container tightly closed in a dry and well-ventilated place.

Recommended storage temperature -20 °C

Keep in a dry place. Keep in a dry place.

SECTION 8. - - - - - EXPOSURE CONTROLS/PERSONAL PROTECTION- - - - -

Personal protective equipment

Respiratory protection

Where risk assessment shows air-purifying respirators are appropriate use a full-face particle respirator type N100 (US) or type P3 (EN 143) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

Hand protection

Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

Eye protection

Safety glasses with side-shields conforming to EN166 Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

Skin and body protection

Impervious clothing, The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

Hygiene measures

Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

Specific engineering controls

Use mechanical exhaust or laboratory fumehood to avoid exposure.

SECTION 9. - - - - - - - PHYSICAL AND CHEMICAL PROPERTIES - - - - - - -

Appearance

Form	powder
Colour	No data available

Safety data

pH	No data available
Melting point/freezing point	Melting point/range: 220 - 223 °C (428 - 433 °F)

Boiling point	No data available
Flash point	No data available
Ignition temperature	No data available
Auto-ignition temperature	No data available
Lower explosion limit	No data available
Upper explosion limit	No data available
Vapour pressure	No data available
Density	No data available
Water solubility	No data available
Partition coefficient: n-octanol/water	No data available
Relative vapour density	No data available
Odour	No data available
Odour Threshold	No data available
Evaporation rate	No data available

SECTION 10. - - - - - - - - -STABILITY AND REACTIVITY - - - - - - - - -

Chemical stability
May discolor on exposure to light. Stable under recommended storage conditions.

Possibility of hazardous reactions
No data available

Conditions to avoid
No data available

Materials to avoid
Strong oxidizing agents

Hazardous decomposition products
Hazardous decomposition products formed under fire conditions. - Carbon oxides, Nitrogen oxides (NOx), Hydrogen chloride gas
Other decomposition products - No data available

SECTION 11. - - - - - - - - - TOXICOLOGICAL INFORMATION - - - - - - - -

Acute toxicity
LD50 Oral - Rat - 6,443 mg/kg
Remarks: (RTECS)
Inhalation: No data available Dermal:
No data available

Skin corrosion/irritation
Causes skin irritation.

Serious eye damage/eye irritation
Causes serious eye irritation.

Respiratory or skin sensitization
No data available

Germ cell mutagenicity

Test Type: Ames test
Test system: Salmonella typhimurium
Metabolic activation: with and without metabolic activation Result: negative
Remarks: (Lit.)

Carcinogenicity
No data available

Reproductive toxicity
Suspected of damaging the unborn child.
Suspected of damaging fertility.

Specific target organ toxicity - single exposure
May cause respiratory irritation.

Specific target organ toxicity - repeated exposure
No data available

Aspiration hazard
No data available

Additional Information

RTECS: QI9100000
phototoxic reactions, Gastrointestinal disturbance, yellowing of teeth, reduced mineralization
To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

Liver - Irregularities - Based on Human Evidence

SECTION 12. - - - - - - - - - ECOLOGICAL INFORMATION - - - - - - - - - -

Toxicity

Toxicity to fish	LC50 - Salvelinus namaycush (Lake trout, siscowet) - 220 mg/l - 96 h (US-EPA)
Toxicity to daphnia and other aquatic invertebrates	static test EC50 - Daphnia magna (Water flea) - > 340 mg/l - 48 h (OECD Test Guideline 202) Remarks: (in analogy to similar products) The value is given in analogy to the following substances: Tetracycline
Toxicity to algae	static test ErC50 - Pseudokirchneriella subcapitata (green algae) - 1 mg/l - 72 h (OECD Test Guideline 201) Remarks: (in analogy to similar products) The value is given in analogy to the following substances: Tetracycline
	static test NOEC - Pseudokirchneriella subcapitata (green algae) - 0.5 mg/l - 72 h (OECD Test Guideline 201) Remarks: (in analogy to similar products) The value is given in analogy to the following substances: Tetracycline

Persistence and degradability

Biodegradability	aerobic - Exposure time 28 d Result: 0 % - Not readily biodegradable. (OECD Test Guideline 301B)

Remarks: (in analogy to similar compounds)
The value is given in analogy to the following substances:
Tetracycline

Bioaccumulative potential
No data available

Mobility in soil
No data available

Results of PBT and vPvB assessment
PBT/vPvB assessment not available as chemical safety assessment not required/not conducted

Other adverse effects
No data available

SECTION 13. - - - - - - - - - DISPOSAL CONSIDERATIONS - - - - - - - - -

Product

Waste material must be disposed of in accordance with the national and local regulations. Leave chemicals in original containers. No mixing with other waste. Handle uncleaned containers like the product itself. See www.retrologistik.com for processes regarding the return of chemicals and containers, or contact us there if you have further questions.

SECTION 14. - - - - - - - - - - TRANSPORT INFORMATION - - - - - - - - -

DOT (US)
Not dangerous goods

IMDG
Not dangerous goods

IATA
Not dangerous goods

SECTION 15. - - - - - - - - - REGULATORY INFORMATION - - - - - - - - - -

This product has been classified in accordance with the hazard criteria of the Hazardous Products Regulations (HPR) and the SDS contains all the information required by the HPR.

SECTION 16. - - - - - - - - - - OTHER INFORMATION- - - - - - - - - - - -

Further information: no limited for paper copy, just for internal uses.
For research use only. Not intended for human or animal diagnostic or therapeutic uses.

Disclaimer

The information provided on this SDS is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guide for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered as a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other material or in any process, unless specified in the text.

Issuing Date: 04-Feb-2022

End of SDS

CERTIFICATE OF ANALYSIS

Product	Tetracycline hydrochloride
Grade	Ultra Pure
Product Code	TB0504
Formula	$C_{22}H_{24}N_2O_8 \cdot HCL$
MW	480.90
CAS#	64-75-5
Lot No	

Test Items	Specifications	Results
Appearance	Yellow powder	
Identification	Positive	
pH	1.8-2.8	
Specific optical rotation	-240°~-258°	
Loss on drying	≤1.0%	
Related substances		
Epitetracycline	≤3.0%	
4- Epitetracycline	≤2.0%	
4- Epianhydrotetracycline	≤0.5%	
Anhydrotetracycline	≤0.5%	
Any Other impurity	≤0.2%	
Chlortetracycline hydrochloride	≤0.5%	
Total impurity	≤5.0%	
A-Acetyl-2decarbamoyltetracylline	≤1.5%	
Residual solvent		
Acetone	≤500ppm	
N-butanol	≤5000ppm	
Assay (dry)	≥900ug/mg	

Storage: -20°C. Keep Dry. Warm to room temperature before opening.

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Product Information

Tetracycline, hydrochloride

Product name: Tetracycline, hydrochloride
Catalog Number: TB0504

Product Description

Molecular Formula: $C_{22}H_{24}N_2O_8 \cdot HCl$
Formula Weight: 480.90
CAS Number: 64-75-5

Applications

Suitable for cell culture.
Used in tetracycline controlled gene expression systems (gene switches) such as the tet-on and tet-off systems.
Recommend for use in cell culture applications at 10 mg/L.

Biochem / Physiol Action

Mode of Action: Inhibits protein synthesis (elongation) by preventing binding of aminoacyl-tRNA to the 30S subunit
Antimicrobial spectrum: Gram-negative and Gram-positive bacteria.
Mode of Resistance: Loss of cell wall permeability.

Preparation Instructions

Stock Solution Concentration: 50 mg/mL in H_2O.
Solution Stability: Stock solutions should be filtered sterilized and stored at -20°C. Stable at 37°C for 4 days.
Working Concentration: 10-20 µg/mL

Storage

-20°C.

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